South East Coast Ambulance Service **NHS**
NHS Foundation Trust

Final Report

Development, Implementation and Evaluation of the Scope of Practice and Educational Programme for Clinical Supervisors/Senior Clinical Advisers at South East Coast Ambulance Foundation NHS Trust

Authors: Kath Start (Principal Investigator) and Di Jackson (Project Manager)

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1. Executive Summary

This project report describes the work undertaken to develop a scope of practice and a related training and educational programme for an innovative new role based in the Emergency Dispatch/Operations Centres of the South East Coast Ambulance NHS Foundation Trust – the Clinical Supervisor/Senior Clinical Supervisor.

The report covers the background to the development of this role, particularly the increasing number of non-urgent calls to 999 services within the UK and the importance of changing the balance between ambulance/emergency department (A&E) dispatch rates and referral rates to non-hospital care, in order to improve the appropriateness and the efficiency of the care provided.

Wide-ranging discussions and in-depth interviews with staff at all levels across the Trust, alongside observations of practice within the Trust's Emergency Dispatch/Operations Centres, identified the key characteristics of a dedicated scope of practice for the role of Clinical Supervisor/Senior Clinical Advisor.

The associated educational and training needs of existing Trust staff (and those joining the Trust to fulfil this role) were set against the Trust's internal training capabilities and the modules on offer at four partner Universities (the University of Brighton, Canterbury Christchurch University, Greenwich University and the University of Surrey).

This educational need and training provision mapping exercise proposed that all Clinical Supervisors/Senior Clinical Advisors undergo core training in the Trust's 'Clinical Reasoning and Physical Assessment' module (at level 6/7) to establish a baseline of shared knowledge and expertise amongst nursing-qualified and paramedic-trained Supervisors/Advisors – a baseline on which further University-based training across six additional indicative modules might then facilitate career development in specific clinical and management roles.

An evaluation of the first cohort of eight trainees, drawn from staff with either nursing or paramedic backgrounds, suggested this first component of the educational programme was not only well-received by the trainees themselves, but also had a substantive impact on three important indicators of improved practice: shorter call durations; fewer calls to which ambulances were dispatched; and more calls referred to alternative (non-ambulance) services.

Unfortunately, data were not readily available on the views and experiences of service users. This is an important omission given the widely-held view amongst Trust staff that many 999 callers both expect and prefer receiving an ambulance to convey them to hospital. Ongoing audit of health service management data and surveillance of routinely collected views data from service users is therefore required to ensure that the wider implementation of Clinical Supervisors/Senior Clinical Advisors is both safe and acceptable.

The project therefore recommends that:

(i)   Clinical Supervisors/Advisors working in Emergency Dispatch/Operations Centres warrant recognition as a distinct professional role within the urgent care service, and as such have associated training, professional development and leadership needs that should be provided by the Ambulance Trusts involved.

(ii)   Training that focuses on clinical assessment and telephonic consultation skills (particularly as these relate to the newly-implemented NHS Pathways program) should be provided to all Clinical Supervisors/Advisors working in Emergency Dispatch/Operations Centres

(iii)   Ambulance Trusts should make a formal commitment to the training and ongoing professional development of Clinical Supervisors/Advisors and to related training for call-takers, dispatchers, paramedics and managers in order to optimise the integration of Clinical Supervisors/Advisors in support of effective inter-professional service delivery.

(iv)   Ongoing audit and evaluation of health service management data (including information specifically obtained to assess the experiences of service users) is required to: identify potential flaws in the provision of telephone triage, advice and referral services; ensure that these services are both clinically safe and acceptable to service users; and optimise feedback on (and thereby ongoing improvements in) the NHS Pathways program.

(v)   Review and revision of the job description for staff undertaking the role of Clinical Supervisor/Senior Clinical Advisor in the EOC's. This is primarily based on the findings of this evaluation, taking clear account of organisational targets and goals for the foreseeable future that truly reflects the integration of nurses and paramedics in the EOCs.

(vi)   Identification of scope of practice and core competencies that clearly reflect the complexity of the role, which are grounded in the tenet of specialist and advanced practice.

2. Acknowledgements

3. Introductory Rationale for the Project

3.1 The policy background

Successive policy statements have drawn attention to the fact that many 999 callers have non-emergency needs and that ambulance services need to redesign their services and deploy alternative skills in order to provide more appropriate responses to such callers. The latest of these reviews suggests that "there is considerable scope for extending the amount of clinical advice offered by ambulance services, both to 999 callers and potentially to people accessing the new non-emergency number, 111." Many 999 callers with non-emergency needs may nonetheless be very unwell, either mentally or physically. These needs may not require or benefit from the skills of paramedics who rush to their side, nor a visit to a hospital emergency department (i.e. A&E) – particularly if they have one or more long-term conditions, mobility issues and/or mental health or cognitive problems. Such callers need a thorough assessment of their needs, both in response to their immediate problem (i.e. that which led them to phone 999), and in order to improve their longer term care. Offering appropriate 'hear and treat' advice to such callers has been shown to be cost effective, safe and popular with patients.

The demand on the ambulance service by 999 callers has risen year on year. In the past, service providers dealt primarily with life threatening conditions and relatively few calls related to non-urgent care needs. However, in recent years this trend has been reversed with around 70% of 999 callers estimated to present with non-life threatening conditions. The reason for this shift in patient case mix is multi-factorial and is likely to involve:

- an ageing population with complex chronic health needs;
- more restrictive access to GP services (resulting from a diversification of primary care services offered elsewhere);
- increasing population mobility; and
- an increase in the size of transitory populations.

In the light of the spiralling financial cost and potential inefficiencies of existing models of urgent care provision, it is timely to examine the care pathways offered by ambulance services. One innovation to address the increasing number of 999 callers who might benefit from telephone advice ('hear and treat'), home-based treatment ('treat and leave') or alternative community-based (primary/secondary) referral pathways (i.e. as opposed to being conveyed to hospital-based emergency department/A&E services) is the introduction of clinical practitioners capable of better assessing callers' needs.

The rationale for the present project was therefore to explore the education and training requirements of nurses acting in the role of 'Clinical Supervisors' (or 'Advisors') within Emergency Dispatch/Operations Centres (EDCs/EOCs). Clinical Supervisors are in place to assist call handlers and ambulance crews identify the most appropriate, effective and efficient referral pathways for 999 callers. They are also in a position to offer advice directly to any 999 callers whose presenting condition might warrant this.

3.2 The project context

The South East Coast Ambulance Service NHS Foundation Trust (SECAmb) is the statutory ambulance service covering the counties of Kent, Sussex and Surrey (an area of 3,600 square miles). The Trust is funded by the eight Primary Care Trusts across the south east coast to provide emergency ambulance services, and it responds to nearly three quarters of a million 999 calls every year.

SECAmb employs around 3,200 people working across as many as 70 different sites. Around 85 per cent of the workforce is made up of operational staff who provide care for patients either face-to-face,

or over the phone from one of the three emergency dispatch centres where 999 calls are answered. In 2010/11 the Trust received 688,714 emergency calls from members of the public or other healthcare professionals and undertook 401,097 patient journeys. It is likely that some of these journeys to the acute sector, and their associated costs in terms of transport, staff and patient time, might have been avoided had appropriate health advice or referral pathways been available and accessed within the community.

3.3 Telephone-based clinical advice and referral

The UK ambulance service is one of the traditional routes into emergency care alongside self-referral and GP referral. Until recently the service has largely operated as if all 999 callers require conveyance to hospital although, as we have seen, many (and perhaps an increasing number of) patients have less urgent health needs. It has therefore been recognised that what might be considered the 'default position' of transporting all 999 callers to the hospital emergency department (ED or A&E) is both financially inefficient and clinically inappropriate. For these cases referral to primary or community-based services is likely to be not only a more efficient alternative but a better clinical option – one that is more likely to ensure continuity of care and patient satisfaction.

To address the needs of 999 callers who might benefit from telephone-based clinical consultation and/or referral to services other than conveyance to a hospital emergency department, a number of ambulance trusts have introduced a range of new clinical roles (including Paramedic Practitioners and Emergency Care Practitioners). Many have also introduced staff with advanced clinical training/expertise (including nurses) into their control and dispatch operational centres. In the case of the latter, non-urgent 999 calls are referred to these (clinically qualified/trained) 'advisors' who are able to provide telephonic clinical assessment, advice and/or referral (as appropriate).

This is a significant departure from traditional models of ambulance-focussed urgent care delivery, and nurses fulfilling this role within the three UK ambulance services that have started using the 'NHS Pathways' program are the first to be employed, as practising nurses, by the ambulance service in the UK. As such, this development presents a significant challenge to the service and to these nursing trained/qualified 'advisors' – the challenge of providing a professional framework for practice, and appropriate leadership and education for a new role within a new setting. Important to this challenge is NHS Pathways itself, which is a clinical assessment tool that provides interactive computer-aided guidance to call-takers, and thereby delivers effective and clinically safe triage for 999 calls over the phone.

An initial evaluation of NHS Pathways indicated that using this led to 10% fewer calls being assigned to an eight minute ambulance dispatch while the risk of 'under-triage' appeared minimal. The structure of the questions is robust but can be lengthy, cumbersome and inappropriate (for example, as these relate to a head injury), and the program is regularly updated and refined in response to these issues. One persistent concern is that the apparent utility of the program comes at the expense of a clinicians' decision making expertise, and any established experience of making safe assessments and appropriate referrals in the ambulance service setting. Nonetheless, with the ongoing introduction of the 111 telephone number for non-emergency health service needs, appropriate management and referral remains a key priority for improving the use of resources and for avoiding unnecessary hospital attendance, particularly for call-takers lacking advanced clinical skills and/or extensive experience of telephone-based triage.

Given these pressures, an important potential role for Clinical Supervisors within ambulance dispatch/operations centres, is in supporting the decision-making and professional development of colleagues – ensuring that these have access to advice and support, so that they can build their confidence and expertise as efficient yet safe first-responders and/or telephonic triage call-takers.

3.4 Project aims and objectives

It was against this background that the current project set out to address the professional needs of nursing- and paramedic-qualified Clinical Supervisors, both in terms of specifying a scope to their role and an educational framework to support this. With this in mind, the South East Coast Ambulance Service applied to the Burdett Trust for financial support to:

- determine the scope of practice and competency framework for staff providing telephone triage and advice
- explore the potential for staff autonomy when providing telephone triage and advice
- outline a specialist practice programme for Clinical Supervisors
- examine the modules provided by partner Universities (Brighton, Canterbury, Greenwich and Surrey) for matching of required content
- deliver the first stage of training for Clinical Supervisors/Advisors
- evaluate the impact of preliminary training on clinical practice

4. Core competency framework – development and specification

4.1 Methods

To develop an appropriate scope of practice and competency for staff providing telephone triage and advice within SECAmb's Emergency Dispatch/Operations Centres, the Project Manager:

- held in-depth discussions with senior staff at SECAmb including: the Director of Workforce Development; the Head of Learning and Development; the Senior Learning and Development Manager; and the Clinical Advice and Development Manager – to establish the needs of the organization and the perceived career pathway for this group of staff;
- examined the current job descriptions and person specifications for the Clinical Supervisor and Senior Clinical Advisor (see attached, Document I) – to determine the key knowledge and skills required by staff fulfilling these posts;
- visited all three EDCs/EOCs (i.e. Banstead, Coxheath and Lewes) on separate occasions – so that less formal discussions could take place with managers and staff concerning the specification, development, implementation and ongoing integration of the Clinical Supervisor and Senior Clinical Advisor roles;
- conducted observations of call-takers, dispatchers and Clinical Supervisors using the NHS Pathways system – so explore staff experiences of both the strengths and weaknesses of this system;
- held informal discussions with EDC/EOC staff to identify any educational and training needs they felt might help them to operate more autonomously; and
- examine the educational portfolios of four potential partner Universities (University of Brighton, University of Surrey, Canterbury Christchurch University and Greenwich University) for suitable training pathways.

4.2 Findings

The staff working at the three SECAmb EDCs/EOCs were a diverse workforce, not least in terms of their formal academic qualifications – some having no formal qualifications, others trained up to BSc –

and most were nervous about their ability to undertake a University-based training programme. As such these were staff who had entered SECAmb through traditional employment routes (such as via Patient Transport Services) and all felt to some extent threatened by/resistant to University education. Knowledge of one another's roles tended to be limited and, whilst this might reflect the rapid development and deployment of the Clinical Supervisor/Senior Clinical Advisor roles, it also meant that opportunities for pooling expertise and experiences within and across EDCs/EOCs were being missed, and the potential for inter-professional development, support and mentoring had not been realised.

Nonetheless, all of the staff spoken to appeared to be working with high levels of responsibility for making accurate decisions on the severity of callers' problems, and the (most appropriate) type of attention required. Advanced communication skills and ability to use initiative was evident in all three roles (call-takers, dispatchers and Clinical Supervisors), albeit to a lesser or greater extent. In particular, call-takers tended to feel constrained by NHS Pathways and expressed some anxiety about acting more autonomously. In contrast, Clinical Supervisors and Senior Clinical Advisors did not raise these concerns.

Notwithstanding their views and concerns on University-based education and training, staff identified a number of key areas which they felt might benefit from educational input:

- Remote triage strategies, including active listening, information processing and motivational interviewing
- Structured approaches for clinical decision making and the identification of appropriate referral pathways for managing risk
- The provision of health information and advice
- Legal and ethical aspects, in particular regarding mental capacity, comprehensive documentation of decision-making
- Management long term conditions and related medicine management
- End of life care
- Mentorship and leadership
- Major incident management
- Supporting pathways for specific needs, in particular: falls; stroke; trauma; toxicology; mental health; and burns
- Academic learning and writing skills

4.3 Educational needs analysis

Clearly, individuals who undertake new roles need support for, and education to contend with, role transition. Role diversity exists, even in this relatively homogenous group, but education and development both pose issues for role standardisation. This may be particularly relevant to roles that require autonomous practice across a broad set of clinical conditions. A recent study of Emergency Care Practitioners within the London Ambulance Service nevertheless identified that, with appropriate education and competency development, practitioners' decision-making practices are at least comparable to that of clinically-qualified General Practitioners.

The core educational component that appears to develop the potential to function safely as an autonomous practitioner is clinical decision-making. This incorporates elements of effective interviewing (to gain a comprehensive history of presenting) and history-taking (to make a differential diagnosis) for choosing an appropriate pathway of care. In order to meet both the organizational and personal needs of call-takers, dispatchers and Clinical Supervisors/Advisors, a flexible educational model is required. The level of education that best matches this workforce would be level 5 (Diploma in Higher Education) and 6 (Degree), since many lack any formal academic qualifications. As such the

training would offer either a diploma or a degree as both an exit qualification and entry onto a career pathway at a standard comparable with the Paramedic Practitioner programme. Those pursuing a higher (Masters-level) qualification thereafter will ordinarily be able to use a number of the credits attained at level 6 towards an appropriate programme at level 7.[1]

Meanwhile, the use of blended learning, in which a proportion of the learning is 'e-learning', is likely to prove helpful given the geographical distance between EDCs/EOCs. Likewise, it would be appropriate for a proportion of the programme be delivered through 'work-based learning' – a model through which 'bespoke' educational experiences in the workplace can receive academic credits and thereby enable the Trust to meet the training and development needs of its staff (see Document II, attached). Finally, it is likely that problem-based learning will be required as a means of supporting the different pathways for which training support has been requested by EDC/EOC staff.

In summary, the proposed educational programme would include a dedicated suite of 7 modules (0-6), as summarised below (see also Appendix I):

> Module 0: Remote Information Processing
> Module 1: Clinical Reasoning and Decision Making
> Module 2: Mentorship and Leadership
> Module 3: Minor Illness and Injuries
> Module 4: Medicine Management and Long Term Conditions
> Module 5: Discharge Planning and Risk
> Module 6: Work Based Learning[2]

…with a Senior EDC/ECO role supported by Modules), 2 and 6; a Clinical Supervisor role supported by Modules 0, 1, 3 and 4; and a Senior Clinical Advisor role supported by all seven Modules (0 through 6).

4.4 Portfolio mapping across partner Universities

After examining the portfolios of each of the four potential partner Universities, it is clear that there is no complete match between any of the modules/programmes on offer and what is required for SECAmb's EDC/EOC Clinical Supervisors/Advisors. This is summarised for each of the Universities in turn, below:

University of Brighton

At the University of Brighton there are clear components of the clinical studies, community specialist practice, nurse practitioner and health promotion pathways that contain some relevant modules. However, these are rather short on communication and psychological aspects relevant to the Clinical Supervisor/Advisor role. The relevant modules (mapped against the modules listed under 4.3, above) are:

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[1] An alternative innovative option for providing credit and advanced standing has been developed by the University of Surrey. This approach would enable SECAmb staff to access courses and programmes at level 6 _or_ 7 depending upon (and in recognition of) their past experience and achievements in paramedic practice. This approach is likely to be highly desirable given its potential to motivate experienced (but hitherto unqualified) members of the workforce and thereby optimise the effective use of existing expertise and training resources. Indeed, it is a model that would be advantageous were it to be instigated in all of the Universities from whom training might be provided to SECAmb staff (including: the University of Brighton, Canterbury Christchurch University and Greenwich University). That said, it is worth reiterating that adult learners who lack prior formal University qualifications initially find University work challenging and will require support with academic crafting skills – this is an issue which a number of staff at SECAmb's EDCs/EOCs raised during the Project Manager's discussions with them.

[2] See separate document entitled: "Clinical Supervisors Workplace Based Assessments"

- First Contact in Primary Health Care (module 1 and 4)
- Decision Making (module 1)
- Physical Assessment (module 1)
- Health Promotion: the Challenges (module 2)
- Work Based Learning (module 6)

Canterbury Christchurch University

At Canterbury Christchurch University there is an 'Unscheduled and Emergency Care' training pathway which offers a number of modules that would be appropriate to the EDC/EOC Clinical Supervisor/Advisor role. However, these lack sufficient coverage of discharge planning and health promotion – both of which are key components of this emerging role and would therefore need to be included as indicative content. Nonetheless, the relevant modules (mapped against the modules listed under 4.3, above) are:

- Communicating Effectively (module 0)
- Consultation and Clinical Examination (module 1)
- Contemporary Practice in Unscheduled and Emergency Care (module 2)
- Management of Minor Illness and Minor Injury (module 3)
- Working with People with Long Term Conditions and Disability in Health and Social Care Settings (module 4)
- Individual Study (module 6)

Greenwich University

At the University of Greenwich there are no existing pathways that seem to provide a straightforward fit, as indicated in their prospectus. There is however a balance of physical and psychological modules that offer a number of flexible options. The relevant modules (mapped against the modules listed under 4.3, above) are:

- Assessment in Mental Health (module 0)
- Enhanced Clinical Assessment Skills (module 1)
- Leadership Development (module 2)
- Minor Injuries (module 3)
- Long Term Conditions (module 4)
- Health Promotion (module 5)

University of Surrey

The University of Surrey uses modules from 'Long Term Conditions' and 'Urgent Care Pathways', and has some experience of paramedics undertaking CPPD modules for the paramedic practitioner role. The relevant modules (mapped against the modules listed under 4.3, above) are:

- Acute and Advanced Assessment (module 1)
- Clinical Decision Making – community (module 1)
- Leadership and Personal Development (module 2)
- Minor Injuries Management (module 3)
- Minor Ailments Management (module 3)
- Chronic Disease Management (module 4)
- Epidemiology and Health Promotion (module 5)

- Valuing Work Based Learning (module 6)

Based on this review of these four partner Universities' current portfolios, the Project Manager recommended that the University of Greenwich and the University of Surrey currently appear to offer the best potential for addressing the educational requirements of the Clinical Supervisors/Advisors. In addition, the University of Surrey offers a model of accreditation for prior learning and advanced standing that should be integrated into any specific pathway/programme developed by the preferred University.

Clearly, all EDC/EOC staff (including and beyond Clinical Supervisors/Advisors) would benefit from an educational pathway to underpin their practice, although training in academic study skills will be required prior to commencing the programme to maximise access and success. Newly employed Clinical Supervisors/Advisors will need to concentrate on indicative modules 0, 1 and 5 at the outset to be capable of operating as fully functional and safe autonomous practitioners, and rotating between the EDC/EOC and practice would be beneficial to advance clinical skills and build greater awareness of front line operational contexts. Similar benefits would be present were it possible to establish a formal programme of clinical supervision and/or mentoring by General Practitioners and Paramedic Practitioners.

5. Training programme – development and implementation

5.1 Facilitated pre-training workshops

Three workshops were held in early December 2012 for staff from all three EDC's (Banstead, Lewes and Coxheath) with staff drawn from a mix of disciplines and roles (and with managers and members of the Training and Development team from SECAmb also in attendance). The aim of these workshops was to facilitate team building, and provide an opportunity for staff, in an informal setting, to:

- gain a better understanding of the differing perspectives of one another's roles; and
- explore how SECAmb might achieve a clearer understanding of how services might be developed, improved and strengthened.

These workshops were also intended to clarify the learning needs of staff to inform the planning of the formal education programme.

All three workshops were run at venues away from the normal work environment, and involved between 8 and 21 individuals on each of the three days scheduled.[3] This had the benefit of staff getting to know colleagues from other EDCs/EOCs whom they had not met previously, whilst also offering the project team an opportunity to gather richer data.

Each workshop was facilitated by the Project Manager and consisted of exploring potential sources of conflict within clinical current roles across the organisation. Each workshop also involved analysing recorded conversations between Clinical Supervisors/Advisors and 999 callers to elicit specific learning needs and establish where opportunities for mentorship (one from another) might be provided. Each day concluded with an extended session exploring the format and content of the proposed formal training programme to ensure this was fit for purpose from the perspectives of practitioners.

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[3] The variable number of staff involved reflected the challenges of releasing frontline personnel from EDCs without placing excessive additional pressure on service provision and delivery.

The final programme design involved adapting an existing module that had been delivered to Paramedic Practitioners to ensure that participants with both paramedic and nursing backgrounds were able to achieve parity, and to secure accreditation with a higher education institution at level 6/7. The first module to be delivered was 'Clinical Reasoning in Physical Assessment' which contained a robust assessment strategy for both theory and placement-based practice (see Document II, attached).

5.2 Delivery of formal training

Following the workshops, the Project Manager met with the staff from the training and development department and the managers from the EDCs/EOCs to plan the delivery of the formal education programme and to select the staff for the first round of training (including the associated logistics of releasing them from their other service-related duties).

Eight (n=8) individuals were selected for the first round of training from across all three EDCs/EOCs. This included an even mix of staff from both nursing (n=3) and paramedic (n=5) disciplines. Originally the programme was planned for delivery over a ten day period in late January and early February 2013. However, due to the pressure of winter-related demands during a colder than average winter, this training needed to be deferred until March and April 2013.

Each of the ten days of training were designed to explore different medical problems related to a specific body system. This involved a systematic approach to gain knowledge of a range of disease processes, and to separate out disparate/distinct diagnoses, using focussed interviewing strategies (adapted for telephone triage) to identify key 'red flags' (i.e. points in the telephone assessment warranting an urgent response). This approach was intended to help trainees safely identify those callers who do not require transfer to hospital by ambulance and are safe to be discharged (following appropriate health advice) or managed within the community.

Physical examination techniques were also included to familiarise trainees with anatomical landmarks. In addition, the programme was designed to tackle a host of issues associated with accountability and professional responsibility – to clarify trainees' responsibilities and thereby minimise risk for patients, for carers, for themselves and for the organisation. In particular, managing conflict between a caller's expectations (particularly 'an ambulance on scene and transfer to hospital') and alternative care pathways (particularly 'self care and community referral') was also high on the list of learning priorities, to help secure public trust and deliver patient satisfaction. Finally, time was devoted to examining potential conflicts emerging from individual practitioner's expectations of the Clinical Supervisor/Senior Clinical Advisor role, and the related needs and demands of the organisation.

The teaching strategies adopted sought to draw on the wide range of clinical experience and expertise of trainees, and included:

- 'lectorials' (open, discursive yet structured lectures) format;
- problem-based learning using case studies and group discussion; and
- practising focussed physical examination techniques.

Over and above each of these components, the overarching objective of the programme was to help trainees to strengthen both their confidence and competence in transferring their knowledge and skills from contexts where they, as clinicians, might ordinarily be able to directly *observe* a patient, to those contexts in which clinicians (and, in particular, ambulance service-based Clinical Supervisors) have to use *visualisation techniques* during telephone triage consultations.

6. Evaluation Methods

The aim of the evaluation was to: assess the extent to which the new competency framework and associated training might have the desired impact on EDC/EOC practice and outcomes; and identify any further developments in the design, delivery and implementation of the framework and training required to facilitate, enhance and sustain their impact on EDC/EOC practice and outcomes.

6.1 Study design

The evaluation used a mixed-methods cohort design to capture the expectations, experiences and impact of a new competency framework and associated training for staff within the EDCs/EOCs. This design included triangulation between qualitative interviews and workshops with EDC staff; as well as an analysis of changes in quantitative health service management data before and after the delivery of core training to the first cohort of trainees. Through a comparison of qualitative (experiential) and quantitative (service utilisation) data it was hoped to be possible to evaluate the short- and medium-term impact of the new competency framework and associated training.

6.2 In-depth interviews with EDC/EOC staff

In-depth semi-structured interviews were conducted with each trainee, EDC/EOC Manager and a selection of other EDC/EOC staff/colleagues. These interviews used topic guides designed to explore the aspirations, confidence and practices of trainees, drawing upon their own experiences and those of their EDC Managers and colleagues (see Appendix II). These topic guides also explored the perceived impact of any changes in Nurse Trainee practices and/or EDC working practices on referral pathways, healthcare outcomes and satisfaction of service users from the perspectives of EDC staff (see Appendix II).

6.3 Core module evaluation questionnaires

Self-completed open-ended questionnaires and informal discussions, completed by and held with trainees before and immediately after completion of each core module, were used to evaluate: trainees' experiences of the training programme and any suggestions for improvement; and the suitability of the core modules in contributing to skills acquisition for the new competency framework and the associated training needs of the trainees (see Appendix III).

6.4 EDC/EOC health service management and utilisation data

Time-series analysis of routinely collected quantitative health service management and utilisation data aimed to evaluate whether there were significant changes in service activity resulting from the introduction of the new competency framework and associated training.

6.5 Focus groups with service users

It was hoped that the topic guides used to prompt discussions amongst focus groups with service users (conducted as part of the Ambulance Trust's ongoing audit of patient needs, outcomes and experiences) could be expanded to encourage focus group members to discuss their expectations and experiences of different patterns of advice, referral and care from the EDC/EOC.. Unfortunately, it proved impossible to gain access to the service user information collected by the Trust. This important aspect of the project's evaluation, as originally proposed, is therefore missing from this report. It is a component that warrants prompt attention to ensure that the introduction of a formal Clinical Supervisor/Advisor role within EDCs/EOCs strengthens the positive experiences that most 999 callers have of NHS Ambulance Trusts.

6.6 Data analysis

Qualitative data were collected using audio-recordings and field notes generated by interviewers both during and immediately after interviews. These notes were subjected to thematic content analysis to determine the extent of variation and identify themes (including those associated with items included in the topic guides, and those emerging across all qualitative data sets). Quantitative data were analysed using appropriate univariate descriptive statistics.

7. Evaluation findings

The findings of the project's formal evaluation is divided into three distinct parts: the first (comprising sections 7.1 and 7.2, below) explores the structure of SECAmb's EDCs/EOCs and the experiences and views of EDC/EOC staff; the second (comprising section 7.3, below) summarises data generated by the three facilitated pre-training workshops held with EDC/EOC staff in December 2012 (see 5.1, above); and the third (comprising section 7.4, below) examines routinely collected management information collected before (February 2013) and after (May 2013) the delivery of the training programme's first formal module on key service indicators across SECAmb as a whole, and for the eight trainees who received training.

7.1 SECAmb's Emergency Dispatch/Operations Centres

Lewes EOC

SECAmb's Lewes Emergency Operations Centre[4] is based in a discreet two storey modern (1970s/80s) building, tucked away from Lewes town centre. The main operations room comprises an open-plan office of approximately 70' by 70', separated by a windowed partition from a second, smaller office (approximately 60' by 25') housing the patient transport service (the non-urgent patient transport service). The smaller office has a single large rectangular array of desks with filmed windows to one side, and staff seated around the edge (as if around a large conference table) with rows of screens in front of them. The larger, main operations room has a row of medium-sized red lockers along the wall at one end and three smaller private offices (each with windows into the main operations room) at the other end. The larger office is filled with large modern desk consoles organised in pairs, with 4 computer screens in front of each of the uniformed call-takers, dispatchers and Clinical Supervisors. An interviewee (L03) described how the main operations room was organised with call takers and dispatchers facing one another around a central pillar, and with Clinical Supervisors and the call takers (ECO/EMAs) they supported somewhat inconveniently located in an outer ring on opposite sides of the room (L03 had mentioned this to the EOC manager as a potential problem when providing support from one to the other; an issue that was also raised by L07). The main operations room was busy, with a continual murmur of calls in progress, discussions between staff, all at a subdued volume so that it was difficult to hear any individual conversation distinctly except when one of the call handlers had to raise their voice to ensure that their questions/directions were clearly heard by service users calling from difficult contexts. On the first morning of field work, there were between 18 and 20 staff on duty, most wearing microphone headsets. Those towards the centre of the office were described as being "tied to their desks" while those towards the edge of the room were more mobile within the office. The office was described as being more formal during weekday day shifts, when other staff came into the office and the protocols were strictly followed – these being somewhat more relaxed during the nightshift and at weekends.

Banstead EDC

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[4] The Lewes Emergency Dispatch Centre (EDC) had recently been restructured and reclassified an "Emergency Operations Centre (EOC)", while both the Banstead and Cox Heath Centres were still classified as EDCs at the time the first interviews were conducted (but were due to be restructured in due course).

Banstead EDC is situated in a large portacabin in the grounds of a leafy park adjacent to the Trust's main headquarters (a three-storey 1970s building). There was a single main operations room, approximately 100' by 50', with a double glass-sided office situated in the centre, alongside which the Clinical Supervisors' desks were placed, with views of the dispatchers' and call handlers' desks at either end of the room. The room was scheduled for reorganisation in the near future, with the central office moving to the one end, and desks re-arranged in the resulting single/undivided large space. On the morning of the first round of interviews, a smaller proportion of the desks were occupied than at Lewes (there being around 20 staff on duty, with an additional 10 desks/stations vacant), and the volume of conversations within the room was substantially louder, with more clearly audible conversations both between staff and between staff and callers. S01 mentioned that he felt there were very different cultures in each of the different EDCs/EOCs – with Banstead being the most "relaxed", Lewes being slightly tighter and Cox Heath being the most rule-bound – differences that had become particularly evident during the introduction of the NHS Pathways program the year before.

Coxheath EDC

Coxheath EDC is based in a square, three storey modern (c1990s) building adjacent to a PCT Health Centre, surrounded by a large car park to the side of one of this village's main roads. The Control Office is situated on the first floor, in a medium-sized open-plan room with: call takers occupying the bulk of the desks in the middle; and the EOCM, Clinical Supervisor(s) and PP/CCPs seated at desks looking into the centre of the room from three of the room's four corners. On the day of the first phase interview there were 16-18 members of staff present, with only 4-5 desks/stations vacant. The volume in the room was quieter than at Lewes, but with more raised voices were evident than at Lewes. S01 had described this EOC as more rigid in structure and practice than either of the other two, but the interviewer experienced this as falling somewhere between the continual hubbub of Lewes and the more noisy/up and down levels of noise and activity at Banstead. Interviews took place in a small private glass-fronted office situated in one corner (rather than at the end [Lewes] or in the centre [Banstead]) of the control office.

7.2 In-depth interviews with EDC staff[5]

Where have you come from? What do you do now? How has this role changed?

One of the paramedics (L03) who had only been in the role a short period of time, gave a very detailed description of the way in which their current role was playing out within the ambulance service. They described offering clinical support to ECO/EMAs when the NHS Pathways program[6] struggled to generate a clear disposition, or when this suggested that detailed advice should be provided – advice that, when generated by the NHS Pathways program, was felt to be time consuming and somewhat tortuous.[7] In addition to this, the paramedic described offering advice to ambulance teams (particularly private ambulance teams) who wanted reassurance or guidance regarding a service user that might be suitable to treat and leave and/or refer to non-urgent care pathways. To L04, this pattern of care was described as providing a "safety net" beneath the NHS Pathways program which he felt could never adequately provide comprehensive assessments for individual patients with individual needs and individual circumstances. In this sense L04 described the role of Clinical Supervisors as providing a secondary layer of checking, assessment, triage and referral – not only provided directly by themselves

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[5] To ensure that interviewees' comments remained confidential, each has received an interviewee code (see Appendix IV)
[6] The Pathways program had been introduced to SECAmb approximately a year before the evaluation of this project began. It was therefore a new system that had accompanied the introduction of the Clinical Supervisor role.
[7] B01 mentioned, on the second day of the first round of interviews, the existence of Pathways 1 and 2, the former intended for ECO/EMAs, the latter for more clinically-based decisions. It seems likely that it was Pathways 2 that was being referred to here.

to the caller, but also provided to ambulance crews who did not have the necessary details of local referral pathways (particularly when they were operating a long way away from their 'home' patch).

As such, L04 described the work of a Clinical Supervisor as very different to the normal work of a paramedic, and one that was inherently stressful, particularly for less experienced paramedics who took on a Clinical Supervisor role. This was felt to have been partly responsible for what was considered to be a high turnover of clinical staff within the control centre. The associated workload resulted from the much larger number of cases in which they were directly involved (between 30-40 per day), often with 3 or 4 calls being supported simultaneously, with additional queries from colleagues and staff in the main operation centre occurring on an ad hoc basis more or less continually. Although the contexts in which paramedics needed to develop and deploy quick-thinking decision-making skills were felt to be intense, these were nonetheless described as an achievable and comfortable mode of practice – one that was far removed from the more leisurely pace of clinical assessment and history-taking that he felt characterised the clinical practice of healthcare clinicians in other medical contexts.

Likewise, L03 described this as a very new experience and a far cry from a more traditional, risk averse approach of "if in doubt convey". And while both these interviewees acknowledged that the auditing of calls (usually by another paramedic or paramedic practitioner: PP)[8] might not be adequate to distinguish between unnecessary conveyance and risky non-conveyance, they did feel that there was emerging a cultural shift in the broader practices of all Emergency Dispatch/Operations Centre staff towards more specific patient-relevant care – a shift that was likely to expand the diversity of referral pathways used and reduce the proportion of patients conveyed to A&E. They felt this should draw on and improve the allocation of PPs to patients, with fewer sent to urgent cases (in order to achieve the time-related response targets) and more sent to patients ideally placed to benefit from home-based treatment.

Supporting call handlers and dispatchers

Like an earlier interviewee (L01), L03 described the importance of supporting ECO/EMA colleagues, and paid tribute to the challenging and stressful nature of their work – handling calls when there was shouting, panic, apprehension or foul language. They both described their ECO/EMA colleagues as unsung heroes who rarely got the plaudits or thank you cards/presents from satisfied patients after a successful care management experience. This was echoed by the only ECO/EMA interviewed, who felt that she and her colleagues "don't get the recognition we deserve", and provided a number of examples of calls she had handled (including heart attacks and two deliveries) of which she was extremely proud.

In contrast, a subsequent interviewee (L06) described a worsening "political" situation within the ambulance Trust related, in part, to the proliferation of roles with varying level of clinical expertise (such as PPs, Critical Care Practitioners [CCPs], and other "specialist" practitioners), but more so because of the twin management strands operating within the EOC. This involved a tranche of staff (call takers and dispatchers) who were managed separately from clinically qualified staff, creating tensions when category A dispatches or "hear and treat" referrals were queried or reclassified by Clinical Supervisors. Notwithstanding this perspective, the first EMA interviewed (L07) described questioning Pathways 1-generated dispositions on a regular basis, and skipping questions she felt were meaningless (such as "have you done what you would normally do today") as well as brushing aside feedback from Clinical Supervisors and line managers, citing as evidence that her decisions were correct by the ultimate outcomes and ambulance team pathway decisions. In contrast, B02 appeared shocked when asked whether she skipped any of the Pathways questions (albeit in the context of calls where she described making a preliminary assessment to refer to 'hear and treat'). However, she largely shared L07's focus on the patient while "keeping in my head" the reminder that she should be passing 4 or 5 calls a day, on average, to 'hear and treat' – something that she nonetheless said ultimately depended on the case mix of calls that came her way in any one day.

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[8] Which they described as simply assessing whether the Pathways program had been followed and 'worsening advice' had been given (an assessment that was felt to be "difficult to fail")

L07 expressed substantial disquiet at the allocation of ambulances to inebriated revellers while there were delays responding to elderly people phoning in from home – an inequity she described seeking to manage in the decisions she made at work (i.e. ensuring that young people who were able to find their own way to hospital did so, and taking particular care with elderly callers). All that said, L07 did not feel able to reflect on what other EMAs did, or what motivated them, describing a rather asocial experience at work where her shifts were busy, dominated by the call- and dispatch-related screens on her desk (so much so that she usually was unaware of what colleagues next to her or elsewhere in the room were dealing with) with little opportunity to get to discuss the work or get to know her colleagues.

Somewhere between these contrasting views of call takers and dispatchers was a paramedic interviewee, whose dual role in clinical supervision and clinical audit tempered his experience of 'supporting' call handlers and dispatchers with the statutory, strategic regulatory and governance requirements of the trust. With both of these 'hats' on, this interviewee saw the role of a Clinical Supervisor as balancing the delivery of safe, efficient and appropriate care with the trusts obligations (such as the provision of early pain relief for patients suffering a heart attack).

One of the nurses (L01) currently acting as a Clinical Supervisor had 27 years experience in a range of roles within the NHS including extensive experience in A&E. She recounted how she had been able, in these earlier roles, to follow up patients to ensure that their pathway of care had been appropriate, safe and successful. In contrast, she found her current role very different in that she was unable to see the patient (listening in, instead, to phone conversations she or an ECO/EMA was having) and unable to know how the patient's treatment had progressed. In this, she recounted being perhaps more likely to offer follow-up calls/check ups to callers she had advised in order to reassure herself that the patient's complaint had been settled. This apparent 'need' was similar to the importance attributed to 'discharge' skills/responsibilities by a later paramedic-trained interviewee (L03), who felt this was a significant and potentially important responsibility which the new Clinical Supervisor-led practice might require and from which it might benefit.

Developing expertise in ambulance-based care delivery

B01 was a nurse with a wide range of clinical experience over 22 years, including establishing a competency framework for acute respiratory care. She had been in post for 6 months at the first interview and described how she had had a lot to learn about the ambulance service to be able to understand what was possible/normal practice for on-the-road crews (such as whether an 18 month old child could be strapped lying down on an adult gurney). This knowledge had increased with time and she now felt she was only asking "stupid questions" once a week rather than once a day. She described learning a lot from her paramedic-trained Clinical Supervisor colleagues – listening in on their calls and thinking to herself "I'll do that… I won't do that". She felt that EMAs had gradually gotten used to her being a member of the team and were making better use of her than previously.

Much of L01's current role involved supporting ECO/EMAs – both to ensure that they followed the NHS Pathways program efficiently and consistently (cutting to the chase rather than documenting initially irrelevant information from the caller, and thereby expediting the decision to stand an ambulance down if one had been dispatched) and to balance ECO/EMA's clinical decision-making judgement (which she felt should be limited to the identification of conditions/contexts where an NHS Pathways decision might not be straightforward and might warrant input from a Clinical Supervisor). This was described as somewhat comparable to the student nurse training she had provided in her former roles, albeit balancing the ECO/EMA non-clinical role (and its associated capabilities) against appropriate levels of safe and consistent practice: "a little knowledge can be dangerous". Alongside these more operational aspects to her work, she described the important support she provided to staff handling difficult calls (such as a suicide or cot death), and how she would do so by listening in to calls-in-progress, making eye contact with the ECO/EMA involved and offering post-call support.

Risk management

L02 and L03, in contrast, were experienced paramedics with limited experience of healthcare in other settings. L02 described the importance of managing clinical risk in their role and, together with L03 invoked the special role that risk assessment played in both their former (risk averse) and current (risk management) roles. L02 felt that there were substantial efficiencies to be had in both the number of patients conveyed to A&E and in the number of ambulances dispatched. They also described how a more nuanced approach to 999 callers might strengthen the allocation of PPs to those cases where prompt (but not urgent) clinical treatment at home might be the most appropriate referral pathway (essentially, one of two key internal referral pathways: a PP visit; or a "hear and treat" telephone conversation with a Clinical Supervisor).

B01 clearly relished her work, particularly when she had what she described as a "serious" job (such as an entrapment, road traffic accident [RTA] or cardiac arrest on the hard shoulder). She had done a wide range of jobs before becoming an EMA and had gotten into ambulance work through a friend who was a paramedic. She described the recruitment and enrolment procedures (GCSEs in English and Maths; preparatory learning [that S01 subsequently described as a 100-page book on basic anatomy, physiology and basic medical terminology; maths and biomedicine entrance tests; psychometric tests then interviews). Her training had been complicated because she started work just as the old AMDPS[9] system was about to be phased out (so she learnt both this and Pathways, together with CDA and more recently the new telephone system which B01 had described being introduced to better facilitate communication and call-passing between SECAmb's three EDCs/EOCs. She also described the 4 training days that were arranged each year which the whole team attended (dispatchers, call takers and Clinical Supervisors), which had recently involved presentations from heart teams and the like to describe the services they provide and how these related to the work of the ambulance service. There were apparently slots at the end of the day when it was possible to discuss as a group any practice issues that had arisen.

S01, a 40 year old paramedic with 20 years experience (including stints overseas and working in interprofessional out-of-hours health and social care teams) described the recent shifts in practice and practice organisation that had occurred at SECAmb, and the groundbreaking role it had played with the introduction of Clinical Support within control rooms (as well as the early introduction of NHS Pathways). These early incarnations of the role (which worked at a much more basic level with AMPDS and PSIAM), and particularly the later development of experienced paramedic- and nurse-trained Clinical Supervisors was seen to be particularly key in mentoring, supporting, managing and auditing the activities and decisions of ECO/EMAs.

Clinical Supervisors with a nursing background

According to S01, the decision to recruit nurses into Clinical Supervisor roles was taken when too few qualified and interested paramedic staff expressed an interest in these roles (even when the role had been upgraded). Previously, he described, the clinical skills provided within the operations room involved relatively few paramedics and EMTs who were keen/interested in the role, and relied instead on staff returning from sick leave or unable to go on the road for some reason, who were less motivated and/or less willing to engage with the further development of their skills and expertise. S01 recognised that nurse-trained Clinical Supervisors might find it challenging joining a paramedic-dominated service, but nonetheless felt that staff from a nursing background had settled in well and had largely been accepted by other staff within the service (even PPs, who he described as essentially ambivalent to this development). In contrasting the practice, aptitude and capabilities of paramedic- and nurse-trained Clinical Supervisors, S01 felt that the former were often experienced autonomous

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[9] AMPDS preceded Pathways 1, while PSIAM (Priority Solutions Integrated Access Management software) was replaced with Pathways 2.

practitioners, accustomed to working independently without reference to others (capabilities that tended to make it less likely to persuade/encourage/facilitate them to call into the control room for advice with patients who might safely be left/treated at home or referred to non-A&E services – generating a potential bottleneck, alongside the clinical inexperience of ECO/EMAs, for efforts to further reduce conveyance to A&E). S01 felt the latter tended to have much more advanced clinical skills, particularly in assessment and diagnosis and in those areas (such as paediatrics for L01 and chronic diseases for B01) where they had 'specialist' experience and/or expertise.[10] Nurse-trained Clinical Supervisors were also felt to be much more risk averse, being accustomed to referring care pathway decisions to a senior colleague or doctor before making decisions, and following patients through their entire pathway of care – practices which presented challenges for them in a role requiring the management of more than one call (rather than just a single patient at a time) and prompt decisions and the 'dispositional closure' (i.e. letting go) of calls once care/referral pathways had been chosen.

Both were felt to have the potential to benefit from one another's experience and expertise, though from interviews with L01 and B01 it was clear that both had learnt much on the job about how the ambulance service worked and what their paramedic colleagues (both Clinical Supervisors and those 'on the road') were capable of. S01 correctly surmised that nurse-trained Clinical Supervisors might feel that they had least to gain from the proposed training programme whilst paramedic-trained Clinical Supervisors were more aware (given the greater disparity between their role 'on the road' and their role as Clinical Supervisors [particularly dealing with complex, mental health or chronic disease calls]) of their additional training needs and the potential this might have for the development of their clinical skills. That said, perhaps an important secondary benefit of the proposed training programme (both in content and in the opportunity for paramedic- and nurse-trained Clinical Supervisors to learn together) was increasing knowledge and removing any subconscious disrespect nurse-trained Clinical Supervisors might inadvertently have for their paramedic colleagues existing practices and the extensive experiential knowledge many had attained.

B03 was an ex-financial sector worker who had joined the ambulance service 9 years before working first as an ECO and more recently as an EMA. He had first-hand experience of the recent changes that had taken place (particularly the switch from EMT and Paramedic 'Clinical Advisors' using AMPDS and PSIAM to Clinical Supervisors using Pathways 1 and 2). He felt that the new Pathways 1 program took much longer and was more involved than AMPDS, and in this he appeared to be apprehensive of the additional work and uncertainty, and reflecting the actual changes in practice involved. When asked about his experiences of working with Clinical Advisors vs. Clinical Supervisors he did not seem to have observed any profound changes other than those caught up/involved with moving to NHS Pathways, and he did not express any preference for consulting with nurse- vs. paramedic-trained Clinical Supervisors in his day-to-day work. Moreover, when asked whether he thought that a clearer role description (i.e. competency framework) and additional training might impact beneficially on their practice, he said he had no clear view not knowing what their role was meant to entail (beyond the advice and support he experienced and what he knew they provided to ambulance crews and callers), in particular had limited experience of working with nurses who had been recruited into this role (excluding B01 and L01, the latter remotely when his calls had been monitored or put through electronically between the Lewes and Banstead control centres).

B04 was an experienced nurse, having worked across a range of settings including rehabilitation clinics where there was limited medical oversight (particularly at night) and therefore considerable autonomy, as well as stints in A&E. He had arrived after the introduction of Pathways, and described how his

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[10] S01 felt that, in an ideal world, the ambulance service would recruit a dedicated range of clinicians with specialist expertise in those areas most commonly required when determining the most appropriate disposition for complicated or unusual calls through NHS Pathways, and the commonest 'hear and treat' presentations – but this was not what was possible given current staffing levels and recruitment experiences. And when asked whether it might be possible for ambulance Trusts to pool such expertise remotely in the form of virtual teams spanning more than one trust, this was felt to be impossible given the very different work procedures operating across these trusts.

practice had changed from being less considered to more "gut-feeling"-based within the first six months – 'gut-feeling' being a skill he considered to be an important clinical attribute of experienced, effective and expert clinicians (rather than a pejorative term referring to intuition alone). He could not reflect extensively on what he had learnt from working with paramedics as he described primarily working independently rather than in a team. However he did highlight the key challenge in 'hear and treat' as opposed to 'see and treat', not least because (like B03) it was necessary to accept what you were told on the phone and remember that the caller had made their own assessment of their situation and decided to dial 999. He went on to describe a scenario involving someone at home, at their wits end, who did not need to go to hospital but would instead benefit from a PP visit, feeling that a PP was very well equipped to complete a 'see and treat' for such callers.

B04 importantly described the challenges of keeping up with changes and modifications to the NHS Pathway program (which, by all accounts required regular training updates for all staff in what C02 called the "control room"), and explained that it was simply impossible to check all of the calls EMAs handled and it was therefore necessary to keep an eye on any unusual characteristics to check that they were making safe decisions. In contrast to most of the paramedic-based Clinical Supervisors who described the role they played in downgrading EMA call dispositions, B04 was particularly keen to check on what he considered to be unjustified/unsafe or risky EMA-determined dispositions that did not involve conveying the caller/patient to A&E.

Frustrating and rewarding interprofessional working relationships

C01 had, at the start of her career, been a nurse (although she reflected that this had been so long ago that so much had changed) but had spent more than 20 years as a paramedic 'on the road' before taking early retirement and returning part-time to take up the role of Clinical Supervisor. She described working on her own a lot of the time, albeit occasionally with another paramedic beside her or a PP, and seemed to find the new role challenging, not least when she was covering more than one EDC/EOC as the only Clinical Supervisor (or looking after two of the three EDC/EOCs). Her principal experience was one of frustration, working with EMAs with limited experience/expertise (who she felt often referred calls to her for which, with some additional knowledge/experience, they should have dispatched an ambulance) particularly when the EMAs concerned were based at a different EDC/EOC. This is because she described getting to know who were the experienced/competent EMAs in her own control room and knowing who's assessments/dispositions she trusted to be (more likely to be) appropriate, coupled with not knowing and not being able to get to know directly the EMAs working at other EDC/EOCs.

There was also substantial frustration concerning her work with primary care/community-based referral pathways, specifically GPs who she felt never listened to Clinical Supervisors and were reluctant to take on referrals when the caller/case was held by the ambulance service. Often Clinical Supervisors would advise callers to contact their GPs only to have them told to dial 999 – after which the ambulance service had no alternative but to dispatch and ambulance to convey the caller to A&E. This came to the fore in this interview particularly strongly as she had just tried, unsuccessfully, to refer a 70-year old stomach cancer sufferer with abdominal pain to their GP rather than A&E, and had had to resort to referring her to a local hospice. C01 had not worked alongside nurse-qualified Clinical Supervisors so was unable to reflect on their skills, but she did describe the benefits of working alongside other paramedic-trained Clinical Supervisors and PPs which she felt gave you someone to discuss and check/confirm patient pathway decisions with.

C02 had 29 years experience as EMT then paramedic and clinical team leader roles, describing how she had looked for the opportunity to work in the 'control room' when she felt that her frustration with unnecessary call outs ("at 4am to someone with a cut on their finger") was influencing the paramedic staff she was mentoring 'on the road'. She had then been based in the control room as Clinical Team Leader, and more recently as DDM and EOCM, with experience of a range of activities within the

control room, including call-taking and clinical advice. Coxheath had not yet had a nurse-trained Clinical Supervisor working in the control room, and she expressed a degree of scepticism about the potential fit in terms of skills. This drew particularly on one (perhaps more) of the experiences with B04 when she felt that they had upgraded a GP-referral to A&E conveyance which she felt was inappropriate. She had strongly held views about the importance of being more selective about which calls required prompt ambulance delivered care (particularly those covered by the first two categories of AMPDS codes – dying or at risk of dying) and that pretty much everything else should be dealt with by referral to non-urgent care or non-ambulance transport to non-urgent care. C02 described spending a lot of time checking peculiar dispositions (for example: "Constipation, Herne Bay, Category A??") to determine whether the dispositions were correct (particularly when these had been allocated an ambulance response).

Pathways, audit and constraint

C03, a former media worker who had become a dispatcher and then an EMA two years ago after wanting to do "something more useful", described how her role had become more complicated, busier and with more rigorous oversight in the past two years since the introduction of the NHS Pathways program in April 2011, and a subsequent tightening of oversight and audit. The latter she felt was starting to constrain what she felt she was able to say on her calls – something she described as being an experience that other EMA colleagues shared – and she was concerned that the increasing focus this required on what she was saying and how she was saying it seemed to be/might detract from the more traditional and important focus on the patient/caller/incident at hand. She appreciated having Clinical Supervisors in place and found them supportive and helpful, but she felt that there should be more even clinically-qualified staff available (recounting how they had been led to believe that there would be a minimum of two Clinical Supervisors on each shift, whereas routinely only one Clinical Supervisor was generally available). Interestingly she seemed unaware that nurse-trained Clinical Supervisors had been employed at Banstead and Lewes, and was unaware that she might have spoken to them when dealing with calls associated with their areas. However, the impact of the Clinical Supervisors on her ability to refer decisions, make appropriate decisions and learn more about the clinical aspects of her work, was a frustration which, alongside an increase in the number of calls the control room at Cox Heath had received in the past 2 years, meant that she often could not refer to a Clinical Supervisor and had to ask, instead, the DDM/EOCM, a PP or CCP, or in some instances make the best decision she could in the absence of any available clinically-qualified staff. When questioned about her motivation and sense of satisfaction with her role, she agreed that call takers/handlers did not always get the recognition or thanks they deserved, not only from callers themselves but also from colleagues to whom she had subsequently passed on the call, often after tackling the caller at their most distressed/agitated and calming them down so that subsequent colleagues found them much easier to talk to. Despite the availability of Pathways 2, C02 reflected that it had rarely been used fully.

Non-conveyance decision-making

When pushed to discuss the circumstances under which a disposition might not be downgraded from an ambulance call were it deemed too challenging/time consuming to explain to/persuade the caller that an alternative (non-urgent ambulance response) was appropriate. C03 explained that the disposition was determined automatically by NHS Pathways which would result in an ambulance being stood down, and she resolutely stood her ground that no discretion would/could be applied to change the response regardless of how difficult the caller might appear. However, she did describe how it was not uncommon for ambulances to arrive at the scene when she was still running through the NHS Pathways system, and perhaps NHS Pathways had had a modest negative effect on the allocation of ambulances to the most appropriate calls where the longer time required to assess callers' needs leads to the ambulance arriving promptly.

C04 was an experienced paramedic and now CCP with 4 years in the role, with a particular responsibility for the helicopter ambulance service (HEMS), and only recently working in the control room. He hadn't worked directly with nurse-qualified Clinical Supervisors but felt that there was no reason why they could/should not be a valuable member of the team provided they understood the ambulance service and were committed to delivering care collaboratively. His views on paramedic-trained Clinical Supervisors was coloured by his concern that some post-injury "training job placement" recruits (i.e. those who could no longer work 'on the road') might/often have/had an inappropriate skills base and commitment to the work of the control room. He felt that the ambulance service, like the police and the army, should head-hunt people with potential to develop as advanced clinicians. He found that the new (NHS Pathways-based) system provided too much incidental information rather than cutting to the chase to the incident at hand. He remarked that he would often hear EMAs remark "what kind of a stupid question is that?" when working through the NHS Pathways program, or seeing "a flag go up" (and a cheer) when an EMA finally had a caller who answered "yes" to an obscure question within NHS Pathways. He felt that the new system had nonetheless ensured that the Trust had much better data recording capabilities to cover its governance needs as a result of NHS Pathways, although he ascribed this to a swing from the extreme of conveying everyone to hospital to focussing on the identification of anyone who might not need to be taken to hospital. He felt a balance needed to be struck between these two extremes so that the focus was not taken off the urgent needs calls while reducing the allocation of ambulances to non-urgent cases. That said, he expressed a clear understanding of the ambulance service as a budget-constrained business which needed to ensure that it "made money, or rather didn't lose any of its budget" and recognised that jobs were at risk if it was not able to operate efficiently within these constraints.

What more would you like to be doing? What might the new competency framework/training provide?

L01 was keen to develop and enhance her practical skills, but was apprehensive about the likely theoretical (rather than practical) focus the proposed training might adopt. Although she did not have a detailed sense of what the new framework or related training might entail, she hoped it would help to facilitate greater clarity between the Clinical Supervisor's role and that of ECO/EMAs, with greater understanding and flexibility amongst nurses and paramedics – the former learning more (from direct, hands-on experience) of the decisions and practices of paramedics; the latter learning more about what happened to patients once they had been conveyed to A&E. She felt strongly that paramedics' practice (particularly in deciding to convey and in better preparing conveyed patients) might change for the better were they to have a fuller understanding of the context to which patients are conveyed.

Amongst some paramedics (particularly L02 and L03), there was great enthusiasm for strengthening their diagnostic and clinical assessment skills through education and training. However, others (notably L04) was more circumspect about the added benefits and likely impact of the training programme (and its associated competency framework) on their practice. Whilst this interviewee (L04) was quick to explain how specific (paediatric) cases were referred to a nursing-trained colleague with first-hand experience and how expertise in mental health issues was sorely needed to cope with the level of demand from these users (some of whom were regular callers, making 30-40 calls per month), they nonetheless felt that training would only be helpful to augment or reduce their reliance on "gut feeling" practice rather than replace or diminish the impact thereof. That said, L04 described in some detail how the journey towards, and context of, an "on the road" case tended to provide immediate cues for identifying the most appropriate course of action, and this suggested that additional training in remotely-determined/diagnosed/assessed care might be particularly useful (not least in those areas, such as abdominal care) which routinely relied upon in-person examination.

B01 described what appeared to be rather limited opportunities for networking with other Clinical Supervisor colleagues and other staff grades within the ambulance service. Nonetheless, she had forged better links with those with whom she had undertaken Pathways 2 (the version of NHS Pathways that

goes beyond Pathways 1 [used by EMAs] to generate hear and treat guidance for clinicians) training, and described informal and professional links with other nurses elsewhere (including L01, and C01 with whom she had regular telephone conversations and the possibility of transferring calls, such as those with a paediatric focus, where her colleague's specialist experience might be helpful – although this had not yet happened, the possibility was raised of being able to shift calls around between the three EDCs/EOCs to clinically-qualified staff who had specific expertise). B01 described herself as a keen learner, who was independently completing an online training in toxicology to support the one or two toxicological calls the Centre received every day (often from ambulance crews dealing with someone who may have taken more than one thing accidentally/on purpose and wanted to know which to be most concerned about). She saw the competency framework and associated training programme not only (implicitly) as an opportunity to forge better links with colleagues, but also to create better standardisation of care and shared authority amongst paramedic- and nurse-trained Clinical Supervisors. Indeed, she described current practice as variable with some wide disparities in care provided between paramedic- and nurse-trained Clinical Supervisors. Nonetheless, she felt she had much to learn from paramedic's experience of urgent care, not least in moving patients on without following them up, describing a nurse-paramedic team as a complementary skill set.

When prompted to think through what the ultimate impact of the new competency framework and associated training programme might have, L05 agreed that it might "re-professionalise" clinical practice within the ambulance service by balancing the standardisation of higher levels of care amongst Clinical Supervisors (and, thereafter, their paramedic and non-clinical colleagues) with greater sensitivity to the specific needs of individual patients.

B02, like L07, welcomed the presence of Clinical Supervisors (whether paramedics or nurses) in the operations room, and although she had also started work at SECAmb when Clinical Supervision was provided predominantly by off-road EMTs and paramedics, unlike L07 she did not distinguish between nurses and paramedic-trained Clinical Supervisors when seeking help, asking whoever was free to help as required. She reflected on an instance when she had been unsure of some terminology, had asked B01 – B01 initially agreed with her assessment, then Googled and found out that both were wrong: "we've both learnt something new today".

B04 wanted more standardisation of practice, and reflected on the important work he did mentoring and supporting EMAs to better record the details of conversations/assessments with callers (in contrast to reducing the collection of irrelevant medical history information by EMAs as cited by L01). Like some of the other nurse- and paramedic-trained Clinical Supervisors, B04 mentioned in a serious tone their professional responsibilities and the risk to their registration of making inappropriate decisions, and B04 described this being a constant thought at the back of his mind as he was navigating the decisions made by EMAs and considering the consequences of these.

C01, like many of the previous interviewees, hoped to obtain a clearer understanding and associated clinical-knowledge-based assurance that their decisions were correct – the level of uncertainty associated with remote, telephone-based triage being experienced as particularly difficult and challenging, and a far cry from evaluating patients in person in their previous guise as 'on the road' paramedics.

What impact might the framework have on structures, leadership, users' knowledge, user outcomes, user satisfaction and data?

L01 felt that the new framework and training programme was likely to clarify the role of Clinical Supervisors, their relationship with colleagues (particularly ECO/EMAs) and, thereby, the specification of the ECO/EMA role as well. She envisaged a more clearly demarcated as well as a more efficient and effective distinction between the ECO/EMA and Clinical Supervisor roles emerging, alongside a more flexible workforce of clinical staff (i.e. paramedics, EMTs and nurse Clinical Supervisors) working

interchangeably and drawing upon one another's skills, expertise and contextual experiences. L01 felt that this would strengthen the role that nursing-trained Clinical Supervisors might play within an evolving ambulance service, making better use of alternative care pathways and leading to improved service user knowledge (particularly regarding what alternatives to A&E exist, and the services offered to 999 callers), improved service user satisfaction (particularly amongst those non-emergency callers who preferred not to be conveyed to A&E) and an associated decline in conveyance rates. She was very much aware of the costs associated with ambulance dispatch and A&E admission, and envisaged what appeared to be a 'virtuous circle' of more appropriate care, with more satisfied service users and lower service-related costs.

L01's views were echoed by some of her paramedic-trained colleagues, who felt that the proposed competency framework and associated training programme would bring much-needed clarity to the role, not least because "everybody does their own thing" and there was a sense that different Clinical Supervisors might provide different advice to callers presenting with similar conditions. Beyond standardising what might otherwise be variable practice, the framework and programme were also felt to offer greater clarity on the "authority" (L03) of Clinical Supervisors, particularly in the support and reassurance they might then be able/expected to provide to both ECO/EMAs and ambulance crews when making a decision not to convey to A&E. This 'authority' extended to the work Clinical Supervisors did with other healthcare services, one of whom (B01) relished the opportunity of working more directly with GPs within the existing and future 111 contracts to facilitate more direct linkage between callers with dispositions requiring GP visits where substantial additional structural barriers existed (not least GP receptionists) which delayed or prevented timely access to a GP.

Moreover, L03 hinted at what they felt would be a shift in attitudes towards a broader profile of referral pathways available to the full spectrum of frontline ambulance staff, including greater influence of Clinical Supervisors (of the more patient-specific diagnostic practices their role embodied) in the allocation of ambulance trust resources to service users, be these urgent response vehicles and staff. To embed this shift in operational culture, the appointment of a suitably qualified EO Centre manager (with clinical as well as managerial capabilities) was felt to be an important structural device for achieving broader impact from the Clinical Supervisor role.

As well as clarity, L06 argued that the new competency framework and associated training was necessary to bring all specialist clinicians up to a comparable level of expertise so that they were better able to understand the support they might offer one another and respect the equivalence of the different pathways they had taken to achieve this (be this as EMT, paramedic, paramedic practitioner, critical care paramedic or nurse). More importantly, this interviewee (L06) felt this was just the first step towards a much broader uplift of clinical expertise across the trust's clinical workforce, empowering not only the control room-based staff but also those 'on the road' to apply advanced diagnostic and therapeutic skills to bear and demonstrate more confidence in discharge and referral.

Finally, there was widespread belief amongst most (but not all) interviewees that the implementation of the competency framework and associated training programme would impact substantively on the routine care statistics in terms of the diversity of referral pathways accessed and the proportion of patients conveyed to A&E. However, for at least one interviewee (L04) there was a sense that these changes were likely to reflect much broader and longer-term shifts in ambulance practice which accompanied the introduction of non-conveyance as an option for ambulance crews as long as 5 years ago (albeit that the ambulance service was still required to convey patients if the patient could not be persuaded to use alternative transport or access alternative care pathways). Under these circumstances L04 seemed to think that it would be unlikely to observe any clear shift in routine management/practice statistics as a *direct* result of the competency framework and associated training even though others (L05) felt that modest reductions in conveyance would be accompanied by more substantial increases in the number of callers referred to 'hear and treat' in-house. One EMA (L07) went further, suggesting that the training programme would have no affect whatsoever on their practice

or on disposition/conveyance, at least with regard to the calls she handled – this being primarily a consequence of her determination to make the best informed decisions she could about the calls she received, irrespective of targets, bonuses, Pathways criteria or feedback (to the contrary) from Clinical Supervisors and line managers (see earlier). That said, other interviewees (particularly L06) pointed out that there would remain a number of barriers to accessing alternative care pathways as long as local, primary and community-based services remained poorly documented and difficult to access. Extensive additional work to map and network amongst these pathways would be required before the proposed training might successfully move beyond a minor reduction in conveyance and a substantive increase in 'treat and hear' delivered by ambulance staff themselves. This was exemplified by the rather ad hoc way in which referral pathways were collated/updated by one of the Clinical Supervisors at Banstead (B01), which did not involve a structured routine approach to generate the comprehensive and up-to-date information required.

Because B02 did not distinguish between paramedic- and nurse-trained Clinical Supervisors, and found the advice and support that both provided helpful and supportive, she did not see the potential impact that the new competency framework and related training programme might have on their work or hers.

S01 felt that there was likely to be some noticeable changes in the length of paramedic- and nurse-trained Clinical Supervisor call lengths (for which data were collected) as a result of the training programme, and a modest decline in conveyance rates and increase in 'hear and treat' rates. But he acknowledged that ECO/EMAs and 'on the road' paramedics might remain substantive bottlenecks to any further reduction in conveyance rates (even when/though the service would face budgetary constraints associated with say a 90% conveyance/10% 'hear and treat' rate). For 'on the road' paramedics this stemmed from their autonomous practice and tendency to revert to conveyance rather than consult with clinical colleagues back at the control room whenever a patient might warrant further assessment prior to conveyance to A&E. That said, SECAmb's records suggested that 30% of ambulance dispatches were "see and treat" (i.e. were dealt with at home rather than conveyed to A&E following the arrival of an ambulance).

The two ECOs/EMAs at Banstead (B02 and B03), neither of whom described differentiating between nurse- and paramedic-trained Clinical Supervisors, had a relatively unclear view of the extent of the Clinical Supervisor's role – something that might be clarified by the proposed competency framework – and as such struggled to offer anything much in the way of suggested content or likely consequences of the associated training programme proposed.

B04 felt that the new competency framework and associated training would be very helpful in standardising the delivery of care and advice by nurse- and paramedic-trained Clinical Supervisors, which he seemed to feel approached unacceptable levels of variability on occasion.

C01 felt that the training programme (particularly if, as hoped, this included some of the training PPs had received) would significantly reduce the uncertainty they had when dealing with 'hear and treat' cases and thereby extend the complexity and acuity of the questions they could ask and probing they could undertake to establish the most appropriate care pathway for callers. This might result in longer calls, but as C01 explained "Why should we be worrying about how long the call takes if the patient doesn't need to go to hospital?" She felt that there might nonetheless be a reduction in call length ("because then we won't have to go all around the houses" to make a clear decision) and a decline in the proportion of callers being conveyed to hospital – something she clearly felt was a worse outcome for those callers who did not need to be conveyed. That said, C01 did not necessarily feel that caller satisfaction would improve, because it would still be difficult to reduce the frustration that they might feel waiting for a call back when the Clinical Supervisor was trying to identify/arrange a suitable care/referral pathway.

C02 felt that there were a sector of callers who would be likely to be less satisfied once Clinical Supervisors (and, importantly, the EMAs they support/mentor) ensured that only life threatening urgent calls to callers unable to seek care independently (but nonetheless demanded, sometimes very aggressively, and ambulance) were conveyed to hospital. But this was viewed as not only appropriate but important to reduce the inappropriate allocation of ambulances and ensure that ambulances were available for those callers who desperately needed them. Better clinical skills for paramedic-trained Clinical Supervisors should reduce their call lengths and make them more certain (less "gut instinct"-based) in their decisions, while training for nurse-trained Clinical Supervisors (as well as learning more about what ambulance services can and should do) was felt likely to reduce the number of calls they upgraded to conveyance dispositions. We discussed the motivation of EMAs, and in particular the sense of personal gratification they felt when fielding calls effectively (something that made it difficult for them to relish difficult conversations with callers who did not need an ambulance and needed to be persuaded/would be disappointed), and C02 explained that although it would be better were all of them to be better qualified clinically, this simply wasn't practicable, and instead it was an expectation that EMAs would improve the clinical knowledge/judgement they needed to apply to their work through experience, as well as with the support and advice of their Clinical Supervisors and EOCMs. And while a new competency framework was felt to be likely to improve the understanding amongst Clinical Supervisors and their colleagues as to what they should be doing and what skills they should be able to deploy, the training required by paramedic- and nurse-trained Clinical Supervisors were felt to be very different – the former likely to benefit from more clinical skills (interestingly not articulated with reference to minor, chronic or mental illness), the latter from better understanding of what a paramedic-led ambulance service could and should provide and the range of different options available (ambulance, car, CCP, and PP) available to improve the appropriateness of care allocated to callers. In this, C02 was particularly concerned about the current "Scope of Practice" and the way this was interpreted and applied (in particular by nurse-trained) Clinical Supervisors who she felt should be willing and able to discharge hear and treat patients rather than always looking for who else might take the call/patient on.

C03, like a good range of the previous interviewees, felt that public education about the ambulance service, and particularly about how the ambulance service was changing (in its triage, 'hear/see and treat' services etc) was required to manage the increasing volume of calls and make it easier to explain to the public when an ambulance dispatch disposition was not indicated by the Pathways program.

Comparison between paramedic- and nurse-qualified Clinical Supervisors

The initial interviews (L01-L03) suggested quite a clear divide in the perceived clinical competence of nurse-qualified and paramedic-qualified interviewees. The latter were familiar and comfortable with the more nuanced history-taking and diagnostic practice of non-critical care settings, establishing the likely causes of disease presentations and following these up. The latter being better equipped at rapid assessment of life threatening conditions and safe conveyance to expert clinical care. While some nurse-qualified staff were apprehensive about additional theoretical training, the paramedic-trained staff were keen to increase their basic medical knowledge to better understand the aetiology, prognosis and thereby most appropriate treatment pathways for less clear cut decisions. The nurse's previous experience of working in medical care settings – particularly in paediatrics and in A&E – was much admired by the paramedic-trained staff interviewed, who described how they were able to draw on their nurse-trained colleague's expertise when dealing with such presentations and suggested (L03) that they would like to have similar first hand experience of A&E contexts (and subsequent service-user pathways thereafter) to better inform both the decisions they made in the best interests of presenting service users' needs *and* better advise service users of the most expedient and appropriate referral pathways.

Despite the nursing-trained interviewee's apprehension about more theory-based pedagogic training, both they (L01) and some of their paramedic-trained colleagues (L02-L03) shared a keen interest in

further developing their clinical decision-making skills (albeit the latter more so for basic medical and aetiological sciences). All interviewees nonetheless recognised what they felt to be an unacknowledged role in supporting and training both ECO/EMAs and the service users. This echoed the similarity between trainee nurses and ECO/EMAs described by the nurse-trained Clinical Supervisor (L01), but the importance of having appropriate skills in training and communication (for both ECO/EMAs and service users) was expressed by all interviewees.

Based on a rather simplistic sample (of just one nurse, two long-serving paramedics and three relatively recently trained paramedics), the overall picture was of an eagerness to realise the clinical aims that had been articulated for some time within the trust through a raft of training activities intended to strengthen and standardise clinical expertise (amongst newly qualified paramedics) versus the less confident view (from the nurse interviewee and long serving paramedics) that training might actually deliver useful practical skills to those with substantive existing expertise built upon years of practical experience.

The only EMA interviewed (L08) described substantial professional reluctance in accessing nurse-trained rather than paramedic-trained Clinical Supervisors, except where the specific (acknowledged – i.e. there may have been others that were not widely recognised) clinical skills were relevant to the specific call in hand (e.g. paediatrics). This interviewee had only been in post for 2.5 years, but had been employed for around 2 years before the nurse joined the team as a Clinical Supervisor and given that her's was a job that she really enjoyed and described wanting to do since she was a teenager, there was clearly something real if rather intangible about her identification with paramedics and paramedic colleagues.

From the perspective of the ECO/EMAs, paramedic and nurse-trained Clinical Supervisors were either very different or were entirely interchangeable (compare L07 with B02). This is perhaps an issue that will resolve over time and might be facilitated by improved Clinical Supervisor (virtual) team cohesion and identity that might emerge following participation together on the training programme, and/or strengthened by a common competency framework (were this to create a unified Clinical Supervisor role that was recognised as such by other staff within the ambulance service).

One of the differences between nurse- and paramedic-trained staff might be the different resources they deployed to protect their registration. B01 described the importance of detailed and comprehensive notes, describing decisions made and the evidence used to substantiate these; in contrast some of the Lewes interviewees described how paramedics tended to convey to hospital as a fall-back position in the absence of certainty: "nobody gets into trouble for conveying a patient"

C02 clearly felt that paramedic- and nurse-trained Clinical Supervisors were very different, both in the focus of their practice (the former on urgent life threatening care decisions, the latter on securing follow-up care often delivered from an inappropriately-sourced provider) and in their ability to move calls on promptly and appropriately.

Suggestions and aspirations for the training programme

Notwithstanding the nurse's lack of enthusiasm for university-based theoretical training, all interviewees were keen to learn new skills, with a particular focus (amongst the paramedic-trained staff) on: paediatrics, care of the elderly and mental health. Training in education, mentoring and support were also felt to be important given the important role Clinical Supervisors played in working alongside ECO/EMAs, and the importance of educating the public about how ambulance services operate and the range of services they are able to provide. Most of the paramedic interviewees (L02, L03, L05, L06) echoed this view, and listed mental health, minor ailments, clinical supervision, leadership and negotiating skills (as well, more broadly, evidence-based practice [L06]) as ingredients that they would find particularly useful. L05 hoped that the training programme would pick up much of the paramedic

practitioner curriculum, reflecting on how intimidating it might otherwise be for a recently-qualified paramedic to fulfil a Clinical Supervisor role, and the benefits they had received from working alongside paramedic practitioners (and, elsewhere, with nurses who had worked in NHS Direct). Indeed, even the paramedic who felt that training might do little more than substantiate practice developed during their extensive career, accepted that training in minor injuries and mental health would be of great value.

One paramedic (L03) expressed a clear preference for distance-learning materials to enable them to manage their training around their work and domestic responsibilities. This interviewee also suggested that some staff might benefit from an 'access-style' introductory course to enable them to reconnect with any specific study skills (such as essay writing) that they might need to refresh before successfully embarking on the course. This important point was echoed by another interviewee (L05) who pointed out that there was substantial "apprehension" amongst staff regarding the planned training programme – apprehension that was the result of the significant number of clinical staff who had never been to university or who had not studied at university for several years.

B01 shared a preference for online and distance-learning materials, albeit coupled with small group tutorial work that would allow her to ask questions and discuss ideas. Unlike L01, she declared herself to be "fascinated by University education" and was very enthusiastic about the opportunity the training programme might provide for learning new skills and standardising practice.

Another paramedic (L04), who had extensive (33 years) experience of working "on the road" and had joined the Clinical Supervisor team (which involved training in Computer Assisted Dispatch [CAD] and the Pathways program) after a period of sick leave, was less certain about the potential benefits of training and what this might contain. Describing much of his current practice as "gut feeling" (which, on clarification, was as much about determining that something wasn't right about a Pathway-derived decision not to convey as it was about one that required conveyance), he reflected on the important role that inter-professional learning amongst SECAMB staff (particularly relating to the paediatric skills training of one of his nurse colleagues [L01]) had on sharing and disseminating practice-based expertise. When questioned further, he agreed that employing experienced clinicians (particularly in areas such as mental health where there was perceived to be a lack of expertise) might offer an alternative approach for broadening the skills base available within the Trust, albeit with an emphasis on 'experienced' and the belief that firsthand experience of work "on the road" would be valuable. A paramedic colleague who had worked his way through the Patient Transport Service through EMT to paramedic agreed with this assessment, selecting "nurses" as his preferred choice of additional staff (accompanied by associated expertise) that he would like to see employed within the EOC to provide guidance, advice and skills development opportunities to other staff. That said, L05 described the challenges facing nurses integrating within the ambulance service – an issue that perhaps training on inter-professional working might seek to address?

An important riposte to the somewhat sceptical views of training offered by the most experienced paramedic interviewed (L04) was offered by one of the youngest (L06). L06 argued cogently that regardless of his respect for the extensive experience and associated expertise offered by longstanding paramedic colleagues, the risks of relying on experiential rather than evidence-based practice included the likelihood that practice was out of date, out of step with current guidelines and could not readily be explained with reference to evidence in the event of an error/mistake. This led this interviewee to place particular emphasis on evidence-based practice as a crucial component of the proposed training programme (alongside more specific requirements such as: minor illnesses; mental health; and clinical leadership). L06 reflected with frustration on the apparent (un)willingness and (in)ability of the trust to make CPD training available to their staff (an issue also raised by L05), even though such training was already available pre-paid within a number of universities to which the trust had formal links. This reticence was partly ascribed to intractable administrative structures and part to longstanding cultural

practices associated with the trust's key aim of meeting targets and delivering services rather than developing and improving these (both in terms of appropriateness and efficiency).

When it was suggested that all the EOC staff were benefitting from learning from one another, and that the proposed training might want to include sessions where other colleagues (for example ECO/EMAs and PPs) might reflect on their needs and experiences, this was felt to be a positive idea by this (L04) and a previous interviewee (L03).

Interestingly, one of these interviewees (L04) described how they had recently completed an online BMJ-delivered course on back pain that he felt had substantively enhanced his knowledge and skills, in part because the online nature of the course offered a comparable off-site/remote context to that experienced when advising 999 callers on the telephone.

Finally, L03 viewed 'discharge' as an important new skill and responsibility for Clinical Supervisor-led emergency care response and one that might benefit from being explicitly covered in the proposed training programme.

A number of interviews (notably L07 and B01) pointed to the somewhat limited opportunities that were available for staff to network, develop informally as a team or 'gel'. This did not mean that there was a lack of coordinated and collegial action, but the description of the eclectic way in which resource files for primary care and community referral pathways were collated and shared (by B01) provided a clear rationale for the potential (yet largely implicit and not explicitly stated) added value that the training programme might offer by bringing staff together to meet, discuss, learn and share expertise. This is an important consideration given the clearer preferences for distance-learning and clearer concerns about some aspects of university-based education (including pedagogic rather than interactive lectures [L01]), given the limited opportunities for team building offered by distance learning or by current working practices.

An important issue that was mentioned both in passing (when the researcher was initially introduced to EDC/EOC staff, for example) and more directly (by interviewees with, perhaps, a specific interest in staff development, such as L05), was whether the training programme would be certificated in some way. For those interviewees who referred to this, the value of the training programme was likely to be enhanced if not largely attributed to the formal qualification successful completion would bestow. This, to some extent, contrasted with an aspiration for more practical/useful skills described by some of the better-qualified clinical staff (such as L01 and B01, but also L02 and L06).

C01 was particularly keen on having additional training in PP skills, and (perhaps in the absence of having worked with nurse-trained Clinical Supervisors) expressed a high level of respect for and trust in the skills, experience and judgements of PPs – something from which she felt that all paramedics (including those 'on the road') would benefit. This helped to qualify the enthusiasm for PP-related training of more recently-qualified paramedics interviewed at Lewes, which was interpreted as being desirable as core components for career progression (both within an advanced clinical role and those who appeared to have/already had management aspirations). S01 was also keen that regardless of the other components of the planned course, that some of the core PP training was available to Clinical Supervisors alongside the associated placements in GP surgeries. There was a concern that the PP training schedule might prioritise the allocation of places on courses to PP trainees delaying access to/uptake of PP-core training by Clinical Supervisors.

C02 felt that nurse-trained Clinical Supervisors needed a much better understanding of how the ambulance service worked and what it could provide, together with support to develop better risk-assessed discharge rather than referral decisions. Paramedic-trained Clinical Supervisors might benefit from history-taking and associated clinical skills to help them reach prompt decisions to otherwise complex problems.

In summary – there was widespread support for a unified competency framework for Clinical Supervisors, and for a shared training programme that (amongst other specifics – notably enhanced clinical skills for paramedics and a better understanding of the ambulance service for nurses) might help to improve collegiality and raise standards simply through shared learning and reflection. These diverse interviewees shared common concerns about NHS Pathways and the importance of good quality clinical expertise (albeit that was well versed in ambulance service contexts) when making appropriate urgent care dispatch and referral decisions.

7.3 Evaluation of core training module

Pre-training assessment

Prior to the start of the first wave of training, the eight selected trainees were invited to discuss and share their professional experience, their expectations of the programme and their anxieties. Their professional experience was varied and extensive, while expectations and anxieties identified a range of important areas that needed to be addressed by the training.

In particular, the trainees' principal concerns focussed around substantial uncertainty regarding their in-depth knowledge of disease processes and patient management. This was described as being particularly difficult where the 999 caller provided a limited, incomplete or disjointed medical history and/or description of their presenting complaint. Clinical Supervisors were also uncomfortable when they felt they lacked sufficient knowledge to make a timely working diagnosis.

Meanwhile, there was substantive anxiety surrounding 'returning to study' (particularly, though not exclusively, amongst trainees with a paramedic background). Indeed, none of the trainees had studied formally in the past five years, and some had not studied formally for more than 20 years. As a result additional study skill sessions were planned, focussing not only on academic techniques but also on applied critical thinking for safe clinical practice. Nonetheless, despite these more general concerns about learning skills and academic ability, there were only minimal differences in the expressed learning needs related to telephone triage – a key component identified in previous discussions and interviews with staff and their managers (see above).

Post-training evaluation

Post-training evaluations took place on each study day and at the end of the programme. These used both formal written evaluation and nominal techniques.

All attendees stated that they had enjoyed the course and had appreciated the opportunity it had provided for developing a dedicated educational framework to underpin their role. Elsewhere, the issues identified as positive included:

- offering a template for the future clinical skills and professional development;
- learning in a focussed and effective fashion using problem-based scenarios; and
- having an extended opportunity to develop as a peer group.

On weighting all the positive outcomes reported by trainees the top three were:

First – the development of new knowledge and skills
Second – the enthusiasm of the Training and Development teaching team (both for the role they were helping to support, and for the two-way learning trainees experienced)
Third – critical thinking and the facilitation of more analytical approaches to decision-making

The areas of the course trainees felt might benefit from improvement were far outweighed by the volume of positive outcomes (as summarised in brief, above), but nonetheless the following three key issues were raised:

First –   the provision of even more practice in developing speedier history taking and examination skills

Second –   the paucity (or absence) of sufficient time for staff mentoring within EOCs

Third –   the potential benefits of Teaching and Development teaching team members spending time within EOCs to observe practice and contextual constraints

Notwithstanding these concerns and constructive suggestions for future training, the course was felt to have achieved all of the aims and learning outcomes for the module. The residual concerns expressed by trainees were therefore more closely related to the future implementation of the scheme, and in particular:

- whether the organisation will (be able to) support their on-going educational needs and thereby offer parity with the existing Paramedic Practitioner and CPP programmes;
- at which University the course will be academically accredited; and
- what support there will be in the organisation for working autonomously (and what plans are in place to embed this within the EOC)?

Some of these questions remain unanswered at the time this report was produced (July 2013), but further training is being planned to meet the needs of the staff and organisation as these relate to ongoing education and career development. The ongoing training is planned around two specific modules namely: Hospital Avoidance: Managing Complexity and Discharge Planning, Referral Pathways and Risk. These modules are designed to provide knowledge and skills for working with other agencies within the community to provide the necessary support to enable Clinical Supervisors to refer callers safely within the community. Dates for the implementation of this training are scheduled for September 2013. Addition arrangements for periods of observation and ongoing mentorship are being negotiated to facilitate and embed changes in practice on a sustainable basis.

7.4 EDC/EOC health service management data

To provide an indication of the impact of this initial period of training on the performance of staff who had undergone initial training, routinely collected service delivery information was analysed for the months of February 2013 (prior to training) and May 2013 (following training).

For the service as a whole, these months involved a total of 100,484 999-calls (48,213 in February 2013 and 52,271 - 8.4% more - in May 2013). This was accompanied by:

- a stable mean overall call length (which averaged 333.5 seconds in February and 330.0 seconds in May);
- an 8% increase in the amount of time per call spent navigating NHS Pathways (from a mean of 279.9 seconds in February to 303.1 seconds in May); and
- a significant 17% decline in the number of General Practice Urgent calls (from 3,758 calls in February to 3,118 calls in May).

These modest differences were reflected in modest differences in referral and disposal rates, as summarised in Figure 7.3.1 (below). This Figure indicates a strong 10% decline in the proportion of 999 calls receiving an 8 minute dispatch, with 6% and 4% *more* 999 calls receiving a 19 minute and 60 minute dispatch, respectively.

While referral rates to primary care (at 3.7%) , home management (0.3%) and 'other dispositions' (primarily community-based care providers; 4.0%) remained more or less constant between February and May 2013, there was a strong (7.7%) increase in the small proportion of calls receiving an Emergency Department (i.e. A&E) referral (although since referrals to A&E stood at less than 2%, this increase represented an absolute rise of just 0.1% of calls).

Figure 7.3.1   Dispatch and referral rates (%) in February 2013 (black bars) and May 2013 (grey bars). 1: 8 minute dispatch rate; 2: 19 minute dispatch rate; 3: 60 minute dispatch rate; 4: emergency department (A&E) referral rate; 5: primary care referral rate; 6: home management referral rate; and 7: other dispositions referral rate.
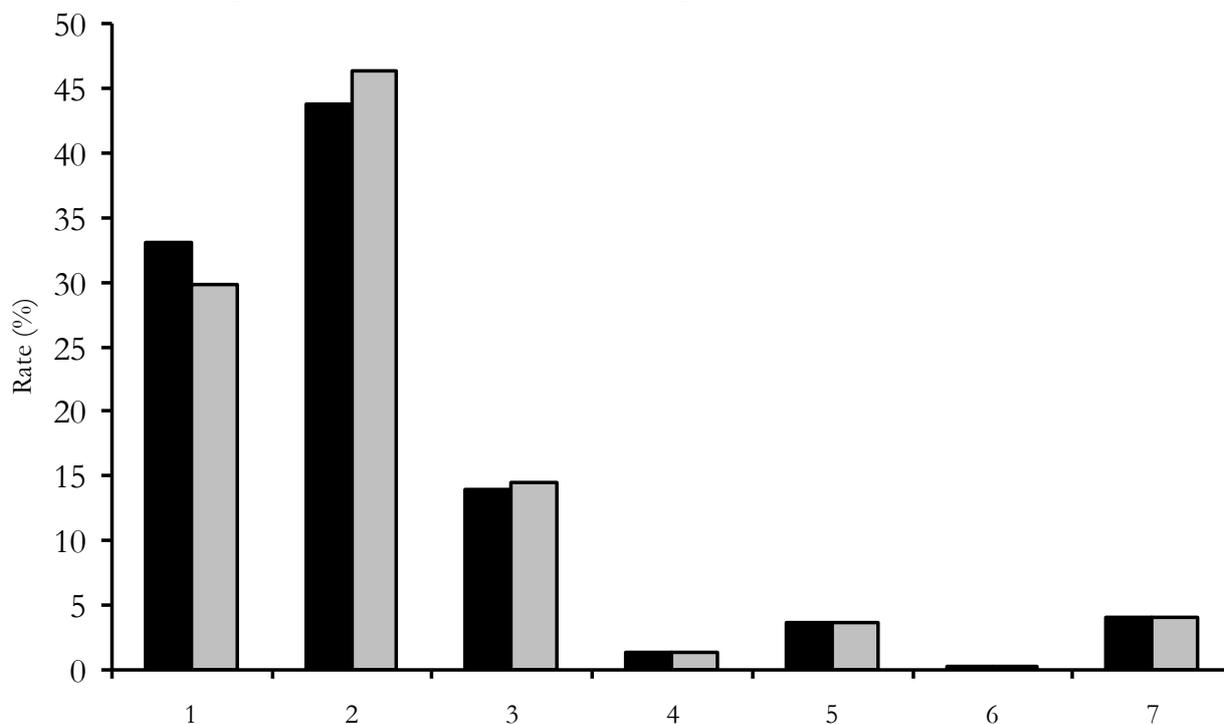

When compared to these overall dispatch and referral figures for the SECAmb as a whole, the eight Clinical Supervisors selected to undergo the first tranche of training had somewhat different practice patterns. On average the time they spent navigating NHS Pathways was 46.8 seconds (or 17%) shorter, and their dispatch and referral rates were 38.1% lower and 39.4% higher respectively.

These, initial, differences in practice – together with the modest temporal changes in practice across the organisation as a whole (i.e. between February 2013 and May 2013; see above) – are important to take into account when examining the potential impact of the training on the subsequent practice of trainees. This is because the selected trainees may already have very different patterns of practice (as indeed these data have revealed), and because temporal changes in practice patterns unrelated to training may appear to show a change in practice over time (although, as Figure 7.3.1 demonstrates, the temporal changes are modest).

A strength of the present evaluation is therefore the availability of individual level data from both before *and* after the training tool place. These reveal that following training, the amount of time spent navigating NHS Pathways was shorter still (56.5 seconds, or 19% shorter). Likewise, dispatch rates were further reduced (at 42.1% lower, around a 10% further reduction) while referral rates were further enhanced (at 53.0%, around a further 25% further increase). These changes are summarised in Figure 7.3.2, below.

Figure 7.3.2   Differences in call duration (minutes) and in overall dispatch and referral rates amongst eight trainees, as compared to data from all practitioners operating across the institution, recorded before (February 2013: black bars) and after (May 2013: grey bars) training.
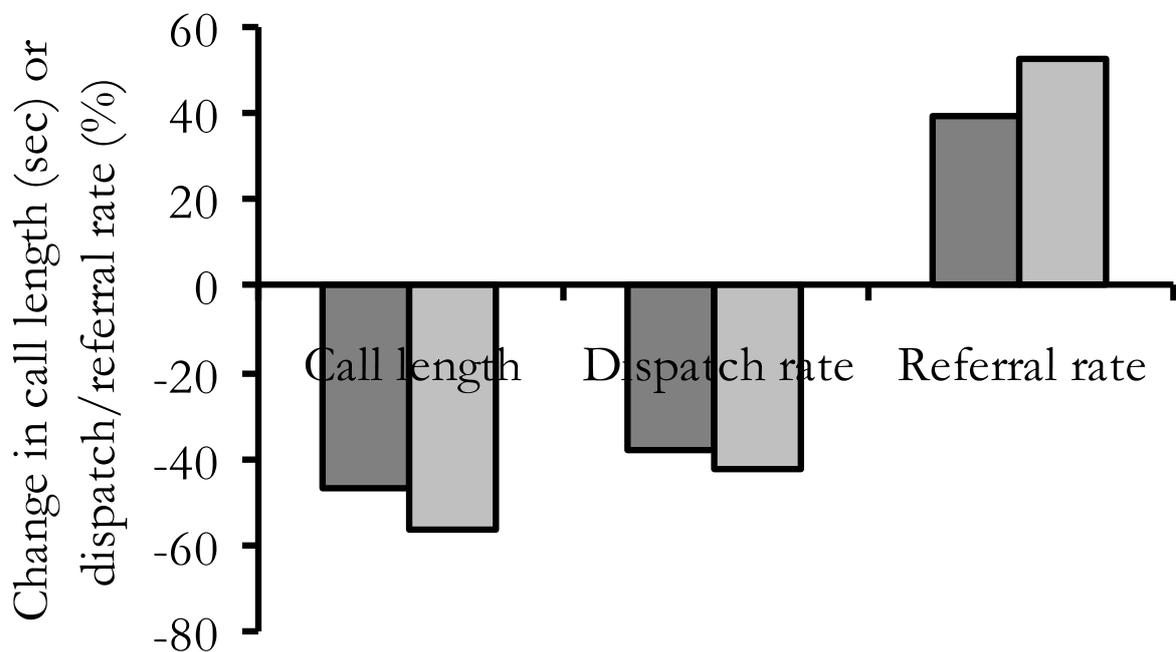
These results provide strong evidence that the training had a genuine impact on improving the confidence and ability of trainees to:

- use the NHS Pathways software more efficiently (and thereby reducing the amount of call time spent on this aspect of 999 calls);
- reduce the proportion of calls to which an ambulance was dispatched; and
- increase the proportion of calls referred to the emergency department (A&E), primary care, home management and/or other.

Provided these changes in practice occurred without an increased risk to patient safety (an issue that warrants ongoing audit and evaluation), they indicate the success of the project as originally intended.

8. Conclusions and recommendations

Conclusion

In conclusion, the present project has successfully addressed its key aims and objectives, namely:

- It has established the importance of developing and supporting (through training, supervision and mentorship) the new role of Clinical Supervisor/Senior Clinical Advisor to facilitate the delivery of safe telephone triage and advice services in ambulance service EDCs/EOCs.

- It has identified the core competencies that are required by staff undertaking the role of Clinical Supervisor/Senior Clinical Advisor, and how these might be realised through the delivery of an integrated programme of training (drawing on in-house modules, modules provided by partner Universities, and workplace-based clinical supervision and mentorship).

- It has explored in detail the experiences, aptitudes and aspirations of staff working within EDCs/EOCs as these relate to the skills, structures, support and training required to realise the potential of autonomous clinical practitioners in strengthening the ability of SECAmb to deliver effective, efficient and safe telephone triage and advice services.

- It has drawn on the experiences of trainees to identify the key strengths of the core module and a number of potential areas where this module might be further strengthened and improved.

- It has delivered the first trenche of training to the first cohort of EDC/EOC staff trainees, and demonstrated the impact of this training on subsequent practice using health service management data that suggests the training elicited the desired, favourable improvements in three key areas of practice: call duration; and dispatch and referral rates.

Recommendations

The project's findings warrant the following recommendations:

- Clinical Supervisors/Advisors working in EDCs/EOCs warrant recognition as a distinct role within urgent care, with associated training, professional development and supervisory needs.

- Training that focuses on clinical assessment and telephonic consultation skills (particularly as these relate to the NHS Pathways program) should be provided to all Clinical Supervisors/Advisors working in EDCs/EOCs.

- Ambulance Trusts should make a formal commitment to the training and ongoing professional development of Clinical Supervisors/Advisors, and to related training for call-takers, dispatchers, paramedics and managers to optimise the integration of Clinical Supervisors'/Advisors' expertise in support of effective inter-professional service delivery.

- Ongoing audit and evaluation of health service management data (including information specifically obtained to assess the experiences of service users) is required to: identify potential flaws in the provision of telephone triage, advice and referral services; ensure that these services are safe and acceptable; and to optimise feedback on and ongoing improvements in the NHS Pathways program.

- Review and revision of the job description for staff undertaking the role of Clinical Supervisor/Senior Clinical Advisor in the EOC's has required consideration. This is primarily based on the findings of this evaluation and reflects the integration of nurses with paramedics in the EOCs. Meanwhile, taking clear account of organisational priorities and goals for the foreseeable future.

- Identification of scope of practice, core competencies and transferable skills that clearly reflect the complexity of the role, and are grounded in the tenet of specialist and advanced practice.

MODULE 0: REMOTE INFORMATION PROCESSING (Level 5/6; Credits 15 [TBC])

MODULE SUMMARY:

Advanced communication skills and interpersonal skills are essential for remote information processing and maintaining therapeutic relationships with callers and professional relationships with colleagues. This module focuses on the strategies and processes involved in active listening, information processing and motivational interviewing

PRE REQUISITES:

None

AIMS:

Students will be able to identify, develop and refine their existing communication skills. New knowledge and skills will also be developed to deal with the complexity of information processing at a distance which involves motivational interviewing and coaching

LEARNING OUTCOMES:

On successful completion of this module the students will be able to demonstrate:

1. Reflect and analyse own range of communication skills
2. Apply theories that influence telephone triage
3. Develop collaborative and empowering relationships with others
4. Analyse the process of goal setting /mapping when coaching callers or others
5. Evaluate a range of communication skills used in a variety of situations

INDICATIVE CONTENT:

Strategies

- Active listening skills - exploring various levels of listening and information processing
- Facilitative communication strategies for telephone triage
- Questioning techniques and strategies for specific situations
- Closure

Theories

- Emotional intelligence
- Modelling and persuasion with colleagues, callers and other professionals and
- Beliefs and their importance in the coaching process
- Barriers and problems in communication at a distance

Techniques

- Analysis of NHS Pathways
- Motivational interviewing skills
- Reflection

Learning and Teaching Strategies:

- Lead Seminars and Workshops

- Group discussion

- Experiential/Role play

- Co-Coaching

- Peer assessment

- Facilitated reflection

ASSESSMENT: An observed and recorded interview and written analysis

MODULE 1: CLINICAL REASONING & DECISION MAKING (Credits 30/15 [TBC])

MODULE SUMMARY:

The module offers practitioners exposure to the knowledge and skills pertinent to clinical reasoning and decision making. It offers practitioners the ability to achieve the autonomy required for advanced assessment. It incorporates key skills for remote assessment in comprehensive history taking, physical examination and appropriate referral pathways.

PRE/CO REQUISITES: Module 0

AIMS:

This module enables students to:

- Prepare for the role of working in new ways, where physical assessment and clinical reasoning skills are fundamental
- Establish a sound knowledge base for assessing a wide range of needs in order to negotiate a sound management plan
- Create advanced communication strategies for negotiating a sound management plan
- Ensure inter-professional working for optimum healthcare
- Recognise when to identify and use appropriate referral pathways

LEARNING OUTCOMES:

On successful completion of the module the student will be able to:

1. Critically discuss effective communication strategies for obtaining a comprehensive health history
2. Demonstrate sound knowledge of anatomical landmarks and physiological principles for undertaking an accurate and comprehensive history
3. Recognise 'red flags' and illustrate knowledge of inter-professional referral pathways
4. Critically examine the ethical, legal and professional issues that safeguard appropriate management plans
5. In partnership with the caller offer sound health advice based on contemporary evidence/best practice
6. Critically discuss the principles of safe case closure

INDICATIVE CONTENT:

Communication

- remote history taking strategies for gaining accurate information
- documentation
- inter professional referral pathways

Health Assessment

- systems review – neurological, cardiac, respiratory, ENT, gastro-intestinal and integral
- normal/abnormal physiology
- mental and social issues

Clinical Decision Making

- formulating a working diagnosis
- confirming/refuting diagnosis
- creating management plans
- risk in mental and physical health

Legal and Professional Issues

- informed consent for working in new ways
- managing risk, duty of care and accountability
- medicine management

Reflection

- self awareness and reflexivity
- case review
- peer assessment

LEARNING AND TEACHING STRATEGIES

Lectures and Group Discussions

Problem Based Learning

Laboratory/Practical Sessions

Experiential Learning/Role Play

On-line Learning/Guided study

Observation/Mentorship in Practice e.g. GPs', PP's

TOPICS FOR PROBLEM BASED LEARNING

Vulnerable individuals – children, learning disability, dementia

Long term conditions

End of life care

Supporting NHS pathways

ASSESSMENT: OSCE and reflective logs of case closures

MODULE 5: DISCHARGE PLANNING AND RISK (Level 5/6; Credits 15 [TBC])

MODULE SUMMARY:

This module is designed specifically to enable practitioners to feel confident in their decision making processes where either case closure or appropriate referrals are made to other health or social care practitioners within the community to minimise risk.

PRE REQUISITES: Module 0, 1 and 4

AIMS:

This module enables students to:

- Offer appropriate health advice to callers that is based on FRAMES acronym (Britt et al., 2004).
- Use evidence based/best practice for information sources.
- Recognise potential areas of danger or risk and take the necessary action.
- Gain confidence in taking responsibility for safe discharge
- Build on inter-professional working relations in health and social care
- Work effectively within constraints of employment policy and procedures

LEARNING OUTCOMES:

On successful completion of this module the student will be able to:

1. Clarify the main areas of callers' concern and focus on the main problem
2. Use effective health education and communication strategies for health advice, based on evidence/best practice
3. Use advanced communication skills to ensure any other related health issues are dealt with
4. Bring about a timely case closure
5. Recognise where issues require immediate response
6. Work in partnership with other agencies

INDICATIVE CONTENT:

Strategies
- Structured Interviewing techniques
- The use of the risk assessment matrix
- Gold Standards Framework and Liverpool Care Pathway
- Health Beliefs and Models of Health Education

Planning
- Bargaining and goal setting
- Reviewing
- Individual responsibilities

Management
- Aggression, anxiety and depression
- Therapeutic intervention and complementary therapies
- Stabilising the relationship
- Support groups and self help

Risk Indicators across the Lifespan
- Neurological, cardiac and respiratory
- Mental Health
- Musculoskeletal
- Gastro-intestinal and endocrine

LEARNING AND TEACHING STRATEGIES:

Seminars
Case discussion
Reflective diaries
Interactive work and simulation
Negotiated learning contract

ASSESSMENT: Recorded Discourse with two patients and essay indicating the benefits and downfalls of the health advice offered

<u>**Appendix II – Topic Guides**</u>

Topic Guide for Research Participants – Trainees from a nursing background

Background – icebreaker
Where have you come from?
What do you do now (in this role – what is your role within the EDC)?
How has this role changed since you started?

Aspirations
What (more) would you like to be doing in this context, and why?
What factors are preventing you from realising these aspirations?
What might a new competency framework (and associated expectations, requirements and policies) play
        in achieving these aspirations?
How might the proposed training support you in achieving these aspirations?

Course expectations
What are your expectations of the course (both positive and negative)?
How do you think/hope the course will change your practice?
What impact do you expect the course to have on:
-   structures and practices within the service (including workload)?
-   your ability to provide a clinical leadership role within the service?
-   provision of advice and health information to service users?
-   service use/referral patterns by service users (particularly transfer to A&E vs. alternative
    pathways)?
-   service user outcomes (including safety and risk and follow-up)?
-   service user satisfaction?
-   routine management data (data collection practices and patterns)

Course expectations
What are your (ongoing) experiences of the course (both positive and negative)?
How do you think/hope the course has/is changed/ing your practice?
What impact do you feel the course has had/is having on:
-   structures and practices within the service (including workload)?
-   your ability to provide a clinical leadership role within the service?
-   provision of advice and health information to service users?
-   service use/referral patterns by service users (particularly transfer to A&E vs. alternative
    pathways)?
-   service user outcomes (including safety and risk and follow-up)?
-   service user satisfaction?
-   routine management data (data collection practices and patterns)

Topic Guide for Research Participants – EDC/EOC Managers

Background – icebreaker
What is your role within the EDC?
How has the EDC changed since you started?

Aspirations
What (more) would you like the EDC to be doing, and why?
What factors are preventing the EDC from realising these aspirations?
What might a new competency framework for the Nurse Trainees (and associated expectations, requirements and policies) play in achieving these aspirations?
How might the proposed Nurse Trainee training support the EDC in achieving these aspirations?

Course expectations
What are your expectations of what the course might achieve (both positive and negative)?
How do you think/hope the course will change your staff's practice?
What impact do you expect the course to have on:
- structures and practices within the service (including workload)?
- Nurse Trainees' ability to provide a clinical leadership role within the EDC?
- provision of advice and health information to service users?
- service use/referral patterns by service users (particularly transfer to A&E vs. alternative pathways)?
- service user outcomes (including safety and risk and follow-up)?
- service user satisfaction?
- routine management data (data collection practices and patterns)

Course expectations
What are your (ongoing) experiences of what the course is achieving/has achieved(both positive and negative)?
How do you think/hope the course has/is changed/ing your staff's practice?
What impact do you feel the course has had/is having on:
- structures and practices within the service (including workload)?
- Nurse Trainees' ability to provide a clinical leadership role within the EDC?
- provision of advice and health information to service users?
- service use/referral patterns by service users (particularly transfer to A&E vs. alternative pathways)?
- service user outcomes (including safety and risk and follow-up)?
- service user satisfaction?
- routine management data (data collection practices and patterns)

Topic Guide for Research Participants – Colleagues of trainees from a nursing background

Background – icebreaker
What is your role within the EDC?
How has the EDC changed since you started?

Aspirations
What (more) would you like the to be doing in this context, and why?
What factors are preventing you from realising these aspirations?
What might a new competency framework for the Nurse Trainees (and associated expectations,
     requirements and policies) play in achieving these aspirations?
How might the proposed Nurse Trainee training support you in achieving these aspirations?

Course expectations
What are your expectations of what the course might achieve (both positive and negative)?
How do you think/hope the course will change your colleagues' and your practice?
What impact do you expect the course to have on:
- structures and practices within the service (including workload)?
- Nurse Trainees' ability to provide a clinical leadership role within the EDC?
- provision of advice and health information to service users?
- service use/referral patterns by service users (particularly transfer to A&E vs. alternative
  pathways)?
- service user outcomes (including safety and risk and follow-up)?
- service user satisfaction?
- routine management data (data collection practices and patterns)

Course expectations
What are your (ongoing) experiences of what the course is achieving/has achieved(both positive and
     negative)?
How do you think/hope the course has/is changed/ing your colleagues' and your practice?
What impact do you feel the course has had/is having on:
- structures and practices within the service (including workload)?
- Nurse Trainees' ability to provide a clinical leadership role within the EDC?
- provision of advice and health information to service users?
- service use/referral patterns by service users (particularly transfer to A&E vs. alternative
  pathways)?
- service user outcomes (including safety and risk and follow-up)?
- service user satisfaction?
- routine management data (data collection practices and patterns)

Appendix III – Open-ended Questionnaires

Course Evaluation Questionnaire to Nurse Trainees (n≈8)
(Paper-based, self-completed, open-answer format questionnaire submitted following completion of core modules)

In what respects did the core modules live up to your expectations?
In what respects did the core modules fail to live up to your expectations?
What were the best things about the core modules?
What were the worst things about the core modules?
If you could change just three things about the delivery and/or content of the core modules, what would they be?

Trainee Evaluation Questionnaire to Module Leaders (n=2)
(Paper-based or online, self-completed open-answer format questionnaire submitted following completion of core modules)

In what respects did the Nurse Trainees live up to your expectations?
In what respects did the Nurse Trainees fail to live up to your expectations?
What were the best things about these trainees?
What were the worst things about these trainees?
If you could change just three things about (i) the selection and (ii) the preparation of nurse trainees, and/or (iii) the delivery and/or content of the core modules that might improve the performance of Nurse Trainees on the modules, what would they be?

Appendix IV – Interviewee codes

L01 – Nurse, 40s, >25 years experience, in current post for 6 months
L02 – Paramedic, 40s, ~5 years experience, in current post for 18 months
L03 – Paramedic, 30s, ~5 years experience, in current post for 6 months
L04 – Paramedic, 50s, >30 years experience, in current post for 12 months
L05 – Paramedic, 30s, >10 years experience, in current post for 8 months
L06 – Paramedic, 30s, 10 years experience, in current post for 10 months
L07 – ECO/EMA, 30s, <5 years experience
B01 – Nurse, 40s, >20 years experience, in current post for 8 months
B02 – ECO/EMA, 20s, 18 months experience
S01 – Paramedic, 40s, 20 years experience, in current post for 18 months
B03 – ECO/EMA, 50s, 10 years experience
B04 – Nurse, 30s, >10 years experience, in current post for 12 months
C01 – Paramedic, 50s, ~30 years experience, in current post for 10 months
C02 – EOCM, 30s, >15 years experience
C03 – EMA, 30s, <5 years experience
C04 – CCP, 30s, >5 years experience

Clinical Supervisors – professional background and current role

The Clinical Supervisors interviewed for this project came from either a paramedic or nursing background. Both groups had varied pathways into a Clinical Supervisory role. Most of the paramedic-trained Clinical Supervisors were experienced paramedics with 5-30 years experience of frontline work 'on the road' as ambulance crew. Some of those with many years experience of paramedic work had moved to telephone-based control room working as a result of injuries or illnesses that prevented them from continuing to work on the road. Others had careers that had progressed through clinical or management leadership roles that made them well-placed to take advantage of the re-branded and re-banded Clinical Supervisors posts that had been created alongside the structural re-organisation and re-designation of Emergency Dispatch Centres as 'Emergency Operation Centres'. Some of the latter were recent graduate entrants to the paramedic profession who had swiftly moved on to advanced clinical support and audit roles after relatively short periods of time working on frontline services. In contrast, the four recently recruited Clinical Supervisors with nursing backgrounds had very varied career paths spanning general medical hospital care, chronic diseases and rehabilitation, paediatrics, telephone advice (i.e. NHS Direct) and acute care (including some with substantial experience of hospital-based accident and emergency departments) – none of them with experience of just two or three nursing contexts.

Like other control centre staff all the Clinical Supervisors, regardless of background, had completed in-house training in the Pathways 1 program and in the Computer Assisted Dispatch program. Clinical Supervisors also received training in the Pathways 2 program, and participated in the regular training sessions provided to disseminate updates and modifications to these programs. With this training, and hands-on experience applying these alongside their clinical and non-clinical control centre colleagues, Clinical Supervisors were equipped with the skills required to shadow EMAs and step in to deal with calls whenever the volume of work required. However, Clinical Supervisors described their current role in four separate yet complementary (and somewhat overlapping) parts: providing clinical advice and support to other clinical and non-clinical colleagues within the control centre; delivering remote support for ambulance staff (and occasionally ECSWs, PPs and CCPs working from other vehicles) at the scene undertaking patient care assessments and referral decisions; auditing (checking, validating and/or revising) clinical care and Pathways-mediated disposition decisions undertaken by non-clinical control centre staff (predominantly EMAs but also dispatchers) and, occasionally, clinical staff on the road; and offering an in-house 'hear and treat' referral pathway for callers with non-urgent needs that might be amenable to advice and/or referral to primary care or community-based services (rather than the ED).

Clinical Supervisors with paramedic backgrounds described the shift in practice from in-person care to telephone-based care as challenging, particularly in assessing the symptoms and needs remotely and through second- or third-hand callers (i.e. those calling on behalf of the patient, or at the request of someone who had alerted them to a third person's needs). These (paramedic-trained) Clinical Supervisors nonetheless felt sufficiently familiar with urgent care incidents, and the varied contexts in which on the road ambulance crews worked, to be relatively confident in their ability to gauge patient needs, and in supporting the conveyance of patients to the ED where circumstances were sufficiently clear to warrant this (or sufficiently unclear to make this the safest decision). However, paramedic-trained Clinical Supervisors were less confident about dealing with patients where it was plausible that conveyance to the ED was not necessary or appropriate. They felt that they lacked the clinical assessment skills required to confidently determine what the underlying complaint might be (not least over the phone and with patients who struggled to provide clear symptomatic information). They also felt that their lack of clinical training in the likely short- and medium-term consequences of ostensibly less urgent conditions (as well as the service- and patient-related consequences of their care pathway decisions) made it difficult to extend their expertise in the prompt and decisive assessment of patients/callers with urgent needs to the more detailed and nuanced considerations required for non-urgent care. Somewhat unsurprisingly, Clinical Supervisors from a nursing background felt the reverse. Their training and experience in non-urgent medical care contexts was described as equipping them with the clinical assessment and clinical history-based skills required to arrive at a more confident assessment of non-urgent needs. And although these Clinical Supervisors also found phone-based remote clinical assessment a challenge, they were more likely to feel that they were able to establish the facts required to make a confident clinical assessment or to conclude that this was not going to be possible without referring the patient to a suitable clinician where an in-person assessment could be made. Instead, Clinical Supervisors from a nursing background described the steep, on-the-job learning curve they had undergone to fully understand how the ambulance service operated and the extensive autonomy practiced by and expected of clinicians working therein. Coupled with the itinerant nature of most traditional ambulance-based urgent care, nursing qualified Clinical Supervisors found it challenging to move on from the relatively leisurely pace at which clinical history-based holistic medical care was based, a challenge that was also evident to their paramedic-trained colleagues, some of whom expressed concern at their apparent reluctance or inability to focus on the caller/patient's immediate health needs and refer/discharge promptly. Nonetheless, paramedic-trained Clinical Supervisors with first hand experience of working alongside their nursing-trained colleagues greatly appreciated their clinical assessment expertise (particularly in those areas, such as paediatric care and accident and emergency care pathways) and made use of these whenever it was necessary/appropriate. As such there had developed substantial respect, complementarity and synergy between the paramedic- and nursing-trained Clinical Supervisors, and this appeared to indicate that both groups had settled into the role in ways that drew upon and suited their different backgrounds, skills and expertise.

Professional aspirations of Clinical Supervisors and the potential role of a competency framework and associated training

Given that the Clinical Supervisor role is a relatively recent development within SECAmb, and given the adaptation required by both paramedic- and nursing-trained Clinical Supervisors to deal with the very different context of practice this role entailed for both, it is perhaps unsurprising that interviewees from both groups identified a number of potential benefits with establishing a competency framework for the role. Although few Clinical Supervisors had a clear view of what this might involve, and only one described developing such a framework in a previous clinical context, all saw the benefit of clarifying the professional responsibilities and clinical capabilities of Clinical Supervisors. This clarification was felt to be necessary to: specify the precise scope of the work they were supposed to do; help their clinical and non-clinical colleagues better understand their capabilities and role (and, to some extent blur any residual distinction between the skills, responsibilities and authority of paramedic- and nursing-trained Clinical Supervisors); and to enhance the reputation and potential authority of Clinical

Supervisors in their often challenging discussions and negotiations with health care providers external to the ambulance service (particularly GPs).

Alongside the potential impact of a competency framework to further delineate what Clinical Supervisors were intended to achieve, the different training, experience and expertise of Clinical Supervisors with paramedic and nursing backgrounds led to two different sets of associated training needs (and expectations/aspirations of what such training might be able to achieve). Those with a paramedic background were keen to have training in advanced clinical assessment skills, while those with a nursing background recognised the need to better understand the relatively autonomous practice of their paramedic colleagues.

Scope of Practice and Competence Framework for Clinical Supervisors

This document is derived from the Paramedic Practitioner competency document (SECAmb, 2012), key domains of specialist and advanced practice as defined by the College of Paramedics and the Royal College of Nursing. It builds on the American model of Advanced Practitioner (AP) role that began to emerge in the United States in the late 20th century. In the United States the profession is state-regulated, and as such offers two distinct role constraints, either working collaboratively with physicians or independently and as such the role varies considerably.

In Great Britain the scope of practice is limited but identifies key domains of achievement in research, education, management and clinical practice that suggests expertise and autonomous practice. Typically this role requires support from an academic programme at master's level to enable practitioners to acquire knowledge and skills in clinical reasoning for evidence based practice.

The scope of practice of Clinical Supervisors within the EOC at SECAmb is bedded in consultation strategies for telephone triage, physical assessment and clinical reasoning who provides mentorship and leadership for the team.

The practitioner is an experienced healthcare professional who has key responsibilities in clinical practice for effective clinical practice in hear and treat. These include:

- Provide a working diagnosis and management of presenting problems
- maintain dialogue with patients and carers, recognising the need to overcome communication barriers
- offer appropriate health education for self help
- manage referrals to appropriate alternative pathways working with colleagues collaboratively
- monitor and develop team performance
- take a lead in implementing change in practice
- enlist support for influencing stakeholders to bring about development of service provision
- review national and local policy in the context of quality care provision
- manage and assess risk within areas of responsibility
- use technology and appropriate software to aid care delivery
- identify patterns of discrimination and assist individuals to access appropriate quality care
- recognise and work within own level of competence

The Clinical Supervisor therefore is required to demonstrate:

- expertise in physical examination strategies and clinical reasoning
- ability to effectively manage callers with complex needs
- autonomy and accountability for practitioner led service provision
- knowledge of public health in the context of local/national policy
- priorities in fiscal management for the wider health economy
- management of clinical governance issues
- leadership skills within the team